

THE NOR-WEST FARMER.

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THE HORSE.

Conformation of the Horse.

(Continued from page 385.)

THE BODY.

The essentials required of the body are (1st) that it shall be large enough to give ample room for the vital organs, the heart, lungs, and digestive organs; and, (2nd),

portant of these dimensions is the width of the chest. It might be supposed that if the chest were defective in one direction, as in width, this defect might be compensated by an excessive development in other directions, such as depth and length, but it has been found from the measurements of a large number of horses, that if the chest is deficient in width, it is very seldom developed abnormally in other directions. Width being the essential factor in a good chest, the curvature of the ribs will show whether the chest is wide or not. A good chest will have ribs, round and springing well out from the back bone, the depth will be ample in proportion, and the length will carry the ribs well back towards the point of the hip, and the animal will be what is known to horsemen as well ribbed up.

Depth of chest is most marked in thoroughbred horses and animals of that type. Some good judges prefer this type of chest in preference to the wide type in

tion of broken wind more easy, but unfortunately for the buyer the early stages of the disease are by no means so easy to detect, and unscrupulous dealers frequently administer drugs which have the effect of temporarily relieving these symptoms.

The withers occupy the region between the back and the neck, between the two shoulders. It is from the highest point of the withers to the ground that the height of the horse is measured. The height of the withers, that is the height relative to the neighboring parts, constitutes the chief point to be desired in the withers. This conformation gives greater amplitude and freedom to the movements of the shoulder blade and therefore is conducive to the highest speed. Horses with low and thick withers are ordinarily animals with low, clumsy action, heavy on the bit and inclined to forge and interfere. The prominence of the withers and their situation renders this region peculiarly liable to injuries from saddle and harness,



Hay Fork at Work on the Farm of F. McArthur, Longburn, Man.

of such a shape as conforms to the proper attachment of the limbs and the requirements of beauty. Treated as a whole then, the body should be large, especially in the anterior half, where a large girth is a great merit, indicating a correspondingly large development of lungs and heart. In the same measure is the girth round the belly a criterion of the state of the abdominal organs. A good feeder will naturally have a large girth, while a poor, unthrifty animal will appear small or "tucked up" in this region. But in estimating the feeding qualities of a horse from the appearance of his belly one must not forget that this will vary considerably within a few hours, being much larger after feeding than after work.

The most important point about the anterior part of the body or chest is its capacity, and, fortunately, we have certain well established facts to guide us in estimating this point. These facts are the length, breadth and depth or vertical height of the chest from the withers to the lower surface of the body. By measuring these dimensions with the eye or tape line an accurate idea of the lung capacity can be obtained. The most im-

portant of these dimensions is the width of the chest. It might be supposed that if the chest were defective in one direction, as in width, this defect might be compensated by an excessive development in other directions, such as depth and length, but it has been found from the measurements of a large number of horses, that if the chest is deficient in width, it is very seldom developed abnormally in other directions. Width being the essential factor in a good chest, the curvature of the ribs will show whether the chest is wide or not. A good chest will have ribs, round and springing well out from the back bone, the depth will be ample in proportion, and the length will carry the ribs well back towards the point of the hip, and the animal will be what is known to horsemen as well ribbed up.

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horses intended for speed, and provided there is no disproportion in the width it is desirable conformation. Otherwise, when associated with an exceedingly flat rib, it is to be avoided. Length of chest depends upon the inclination or slope of the ribs backwards as well as upon the width of the spaces between them. It also indicates capacious lungs as well as shortness of the flank. The flank is the region between the ribs and the hip and stifle. Its chief point consists in its shortness, as unusual length here points to weakness in the loins and shortness in the ribs. The flank affords by its movements most valuable indications of the state of the respiratory organs, and has been called the true mirror of the thoracic cavity. When these organs are healthy the flank rises and falls gently with every breath, but when the lungs are affected with pulmonary emphysema and the animal is broken winded or has the heaves, the movements of the flank are exaggerated and in expiration the flank makes a double movement more or less pronounced, according to the severity of the disease. Rapid exercise increases these movements and renders the detec-

and an inveterate running sore known, as fistula of the withers may result. Injuries of this kind leave scars, or spots of white hair, to mark their former site, and in judging the conformation of the withers, their freedom from blemishes must be noted.

The back is the region behind the withers and in front of the loins. It is spoken of as straight, roach-back, or sway-back. The straight back is the one to be desired, as it combines the attributes of beauty and strength. The roach-back has a convex outline, and while this arching of the vertebral column gives increased strength to support weight, it does so at the expense of elasticity, and under the saddle the roach-backed horse is found rough and lumpy-gaited. The roach back, too, is generally short, and does not give sufficient freedom of movement to the hind limbs in rapid work, consequently the horse is liable to forge and overreach.

This conformation is, therefore, to be condemned in horses for fast work, while in draft horses it is of little consequence except as detracting from the beauty of their appearance.

The concave or sway-back is equally if

not more objectionable. It may be either congenital or acquired; in the latter case being the result of prolonged work in the stud in old stallions, and in mares the effect of raising many foals. This conformation of the back denotes weakness in the vertebral column, and although sometimes a sway-back, such as the race-horse "Tenny," may show great speed, it is the exception to find sway-backed horses up to the average for saddle or harness work.

The length of the back is usually taken to include the loins as well as the back proper, and in this measurement the loins should be as short as possible. A long back gives plenty of room for the development of the thorax or chest, as well as giving ample space for the movements of the hind legs, but it also has the defect of being too flexible and liable to become hollow or sway-backed. Shortness of the back is regarded as the most desirable conformation, combining the maximum of strength with sufficient flexibility for graceful movements. For heavy horses the back can hardly be too short, but in harness horses the back may be too short to allow room for the movements of the hind legs at a rapid gait, and forging and overreaching may result.

Horses Can Count.

A Russian doctor has spent a great deal of time finding out how much animals can count, and has found out that horses can count more numbers than any other animal. He has found that a parrot can count four, a cat six, crows ten and some few dogs twenty. But he has found horses that could count more than this. One would plow across a field twenty times and would then stop and rest, but it never stopped at nineteen or twenty-one. Always just twenty. Another horse always counted the miles along the road by the white mile posts that were set up, and stopped every twenty-five miles, as it had been taught to do to be fed. Another one was always fed when the town clock struck twelve. When the clock struck eleven it would lift up its head and listen, but when the bell had stopped would again drop its ears. But when the clock struck twelve it always neighed loudly for dinner.

Kindness—a language which the dumb can speak and the deaf can understand.—Bovee.

The horse can stand a lot of hard work if well fed, well groomed, well cared for every way, and has a good fitting harness to do it in.

Prevention is better than cure for sore shouldered horses. If collars are kept clean and fit snugly there will be very few collar boils or scalded shoulders.

Look out for sore shoulders. See that the collars fit. Wash galls with salt and water at night and with clean water in the morning, and protect the spot with a pad. Do not push the team the first few days, especially if sultry.

A Texas inventor is on the market with a nailless horseshoe. His idea is to attach the shoe to the hoofs by clamps tightened with a bolt, permitting the flanges to impinge on the hoof and hold securely. The idea is impracticable as the tension of the flanges necessary to hold the shoe securely in position would be so great and continuous that it stands to reason that the foot would become inflamed and contracted. The chief objection to the old-fashioned method of shoeing is using too large and too many nails in attaching the shoe to the hoof.

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CARDS under this head inserted at the rate of \$1.60 per line per year. No card accepted under two lines, nor for less than six months.

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K. McIVOR, Roselea Farm, Virden, breeder of Shorthorn Cattle and introducer and grower of Western (or native) Rye Grass. Seed for sale.

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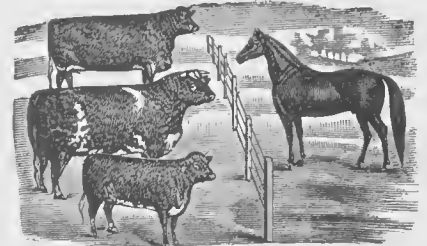
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16 CANADIAN BRED BULLS

21 2-yr-old Imp. Scotch Heifers,
8 yearling Imp. Scotch Heifers,
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Also Cows, including imported and Canadian bred, served by the imported bull "Golden Fame." Prices consistent with quality. Correspondence and Inspection invited. Visitors welcomed.

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We are offering five Bulls from 7 mos. to 2 yrs. of age. Stock Bulls (imp.) Warfare (56712) and (imp.) Royal George (17106), and Centennial Isabella, Scotland Yet (23375), also a few Heifers.

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Telephone 205.

Thoroughbred Stallion, Jase Phillips.

Jase Phillips, the first prize Thoroughbred stallion, whose photo is given in this issue, was foaled in Tennessee in 1881. He is a chestnut in color, a winner and a sire of winners. His sire is Great Tom, an imported horse and a noted winner. Jase Phillips' dam is Mohur, by Gilroy, out of Sequin, the dam of many running horses. As a 2-year-old Jase Phillips was a winner in high-class company, defeating many famous horses. At three and four years old he was also a very successful winner. He was brought to Cannington Manor by Beckton Bros., where he stood for nine years, leaving a lot of stock that have won prizes at all the leading shows in the west. In 1895, at the industrial at Regina, his stock made a great showing, while for years some of his get have found their way into first places, both at Winnipeg and Brandon. He has stood at Winnipeg this season.

A horse sold to wind and work must be sound in wind, a good worker, not a cribber or weaver, and everything else goes with him.

A horse sold for a worker only must be a good worker, and all imperfections go with him.

A horse negotiated at the halter is sold just as he stands, all imperfections, blemishes and unsoundness go with him. He is sold without recommend and title only is guaranteed.

Whether the animal is sold to work single or double, he must have all other qualities recommended by the auctioneer at the time of his sale. Any horse proving different from the recommend on which he is sold can be rejected, but the purchaser must examine and try the animal on the day it is sold, or within the required time specified by the rules and regulations governing sales adopted by the Horse Commission Union at the Stock Yards.

ing to return after hours of careless wandering, will distinguish one outlet, and patiently await its opening. The odor of that particular part of the fence is their pilot to it. The horse is browsing or while gathering herbage with its lips is guided in its choice of proper food entirely by its nostrils. Blind horses do not make mistakes in their diet.—Horse and Stable.

Keep the stables well ventilated in summer. When horses have to be kept up of nights it's a sin to compel them to stand in a close stall and sweat their lives away.

Carberry already noted as a horse centre, has added to its list of celebrated horses the guideless pacer, Arabus, shown at Winnipeg, Brandon and other fairs by R. S. Fulton, of Brownsville, Ont. The purchaser is Dr. Henderson, who intends using the horse for breeding purposes.

CATTLE.

Stock Raising.

By R. A. Mitchell, Edmonton, Alta.

In the development of live stock the greatest gain is made when the animal is young, and the older it gets the smaller is the gain per day, and the more food used to produce a pound of flesh or fat. The feeder's object should be to obtain as great a gain as possible while the animal is in its immaturity. The benefits obtained from feeding animals depend not only on the quantity and quality of the feed, but also to a large extent on their breed, habit and condition; on their surroundings and the care taken to make them comfortable; and on the preparation and selection of their food. Animals that are slow to mature, whether from their breed or from individual disposition, are unprofitable for the production of meat as they do not make good use of their food; likewise cows that do not give a good quantity of fairly rich milk are unprofitable for the dairy. This thought also applies to sheep intended for the production of wool and mutton.

The disposition to lay on flesh, or to produce milk, wool or work are natural tendencies, peculiar to different breeds, and are affected in a smaller degree by feeding than by breeding. Therefore it is important that the farmer should have animals of the best breeds. The common, unimproved stock will not give as good returns of meat, milk, wool or labor as the improved breeds with the same care and attention in feeding. The winters of Manitoba and the Northwest are so cold that every sort of stock needs protection from the weather, and as food is the dearest kind of fuel to keep animals comfortable, stabling is of great importance.

It is the custom among most farmers to have the foals appear in the spring, and on the whole I think it is the best time, as the food at hand, namely, tender grass, is more suitable than that which they could obtain at any other season. On the other hand, if foaled in autumn, they can be better cared for, as the dam has less work to do in winter than in spring or summer. At five or six months of age they should be weaned, but before weaning they should learn to eat grain along with the dam. After weaning, during the first winter, the foals must have a liberal supply of suitable food. This may consist of hay and oats. The oats may be either whole or ground and should be given twice a day. The evening meal will be improved by adding bran to the oats.



Thoroughbred Stallion, Jase Phillips, owned by Jas. J. Murison, Winnipeg, Man.

First prize 4-year-old Stallion at Winnipeg, July, 1899.

Rules of Chicago Horse Auction Sales.

It is interesting to note the rules that prevail at the Chicago horse auction market, which is perhaps one of the largest in the world.

A horse sold sound must be so in every particular, free from vices and able to pass a perfect veterinary examination.

A horse sold serviceably sound must virtually be a sound horse for all useful purposes of his class. He must be perfect in eyes, wind, not lame, not a cribber, and be able to do as much work as a perfectly sound horse. He can be serviceably sound and be a little rounding on the curb joint, but not curbed or branded. He cannot be scarred from fistula, or have a hip down, but may be slightly cut out at the knees, or puffed a little about the ankle. He cannot have scars or blemishes that constitute deformities, or blemishes and scars that deteriorate his value more than a trifle, or that in any way impair his usefulness for work. Car bruises must be of a temporary nature.

The Horse's Power of Smell.

The horse will leave musty hay untouched in his manger, however hungry. He will not drink water objectionable to his questioning sniff, or from a bucket which some odor makes offensive, however thirsty. His intelligent nostril will widen, quiver and query over the daintiest bit offered by the fairest of hands, with coaxings that would make a mortal shut his eyes and swallow a nauseous mouthful at a gulp. A mare is never satisfied by either sight or whinny that her colt is really her own until she has a certified nasal certificate to the fact. A blind horse now living will not allow the approach of any stranger without showing signs of anger not safely to be disregarded. The distinction is evidently made by his sense of smell and at a considerable distance. Blind horses, as a rule, will gallop wildly about a pasture without striking the surrounding fence. The sense of smell informs them of its proximity. Others will, when loosened from the stable, go direct to the gates or bars opening to their accustomed feeding grounds, and when desir-

For the second winter the food may be much the same as for the first, but increased in quantity. Potatoes or roots may form part of the evening meal. Other changes in diet may be made such as experience and judgment may warrant.

Foals should be kept in box stalls, with access to sheds or open yards, in order that they may have sufficient exercise. Before being weaned they should be trained to the halter and by the end of the second winter taught to drive. The dam may be worked moderately prior to the birth of the foal, if done with due care. While suckling the foal a liberal supply of food is required. The food may consist of hay and a mixture of bran, whole or ground oats and barley. For the summer nutritious grass is good, but it is improved by the addition of grain.

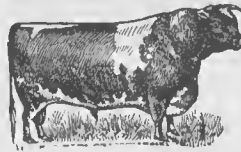
If horses are kept for work the food must be such as will keep the muscular system in good condition and produce the heat necessary to supply their muscular system with the energy necessary to perform their work. For this purpose green hay is the best fodder obtainable and from 25 to 40 per cent. by weight is a proper proportion. The grains to be used are barley and oats, of which oats are the better, as they are richer in muscle producing ingredients, and are also fairly rich in heat producing elements.

For the purpose of producing beef spring calves are best if they are to be raised on the dam, but if they are to be raised by hand on skim milk autumn calves are as suitable. If raised on the dam, it is best to keep the calf in a loose box-stall in the stable and let the cow with it two or three times a day, but if this cannot be done they will do very well running along with the dam. The time to wean is when the calf is from five to seven months of age, but before weaning time they should learn to eat oats and bran. After weaning they should be fed bran and ground oats, or bran and ground barley, or a mixture of these with hay and straw, or oat sheaves and straw. A liberal supply of sliced roots in winter is helpful, being both appetising and nourishing.

If it is intended to raise calves on skim milk they should be fed by hand with new milk until they are from three to six weeks old. A little skim milk may then be added, the proportion of skim milk being gradually increased until the new milk is no longer necessary. This transition period should occupy from one to three weeks time. A half teacupful of flax-seed soaked for several hours and boiled and scalded for one hour, should be added to each meal's supply of milk. Not only does the heated flax warm the milk, but its fatty substance supplies the place of the cream removed from the milk. As the calf gets older it should get food similar to that fed to calves raised on the dam. The prominent idea should be to push right ahead in the development of necessary flesh and bone without the production of too much fat. Water and salt should always be at hand. Cattle intended for beef should always be fed liberally. During the second winter some straw may be fed with hay. The supply of grain should be moderate and of roots plentiful. During the third and last winter the food should be of a more fattening character. They may be fed equal parts by weight of frozen or shrunken wheat chop and barley chop with hay and straw or green cut oat sheaves and straw. The hay, straw and oat sheaves are the better if run through a cutting box. The amount of grain to be fed varies but about one pound to one hundred pounds live weight is a fair average.

Although sheep are not grown very extensively on the farms of this country,

Marchmont Stock Farm.



SCOTCH-BRED

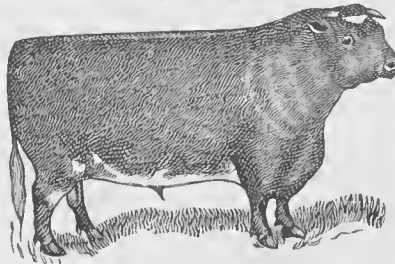
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OAK GROVE FARM.

SHORTHORN CATTLE
and
LARGE, IMPROVED
YORKSHIRE SWINE



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JAS. BRAY,

Longburn, Man.

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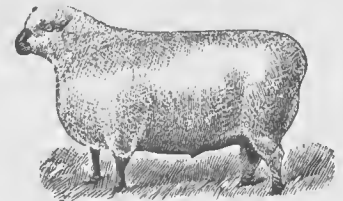
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Young Bulls for sale. A number of young Bulls sired by Caithness.

PURVES THOMSON, Pilot Mound, Man

there is perhaps no part of the world better adapted to sheep raising than many parts of Manitoba and the Northwest. Moreover, a small flock of sheep may be kept on the odds and ends of every farm without interfering with its usefulness for all other purposes. Before the birth of the lambs during early winter oat straw, which has been cut while partly green, is good for the morning and noon meal, while nice and tender hay will do for the evening meal. If about two pounds of sliced roots be added to the meal for each sheep the appetite will be improved and the digestion helped. For the first few days after the birth of the lambs the dam should get nearly, but not quite, all they will eat of bran, barley and oil cake, or of oats, bran and oil cake. The lambs should be weaned at about five months of age. They may be then placed on good pasture and fed about one quarter pound of oil cake, and one quarter pound bran and one half pound oats per head daily. As a rule sheep younger than two years of age can be fattened most profitably. They should be fed a mixture of oats, barley and bran, or of barley, bran and oil-cake.

Swine breeding should receive some attention on every farm, as they consume many products which would be wasted otherwise. Spring litters are on the whole preferable to autumn ones, because

Watering Cattle in the Stable.

A correspondent sends us the following on the above subject:—A. Hutchinson, of White Sands, Assa., in the August 5th issue of your paper opens up a very pertinent question by his enquiry, "Does it pay to put water in a cow stable?" I was considerably interested to notice how he dealt with the matter, but, I must confess, slightly surprised on the whole with his conclusions.

"Does it pay to put water in a cow stable?" Well, of course, that depends. If the stable is an old log or sod affair, which is only expected to be needed a few years longer, then it is very doubtful if the expense of putting in a water system would be a profitable one. If, added to this, it is one where the mercury may be expected to go visiting down where the figures are small, then the doubt becomes much more strongly accentuated. If, on the other hand, the stable is a new one, snug and warm, fitted with other improvements and is generally such a stable as it is the ambition of every good stockman to possess at some time or other, then it seems to me that this question can generally be answered in the affirmative. Of course, here, too, conditions are likely to alter cases. If the nearest water supply

the trough, as also to keep them on the move while outdoors, is certainly a good one; but I have seen a good many places where a man or a big boy with a pitchfork or other pointed argument seemed to be necessary to prevent the stronger stock from taking a monopoly of the trough very embarrassing to the calves and younger ones.

The difficulties enumerated, viz.: Cost, leakage, accumulation of rubbish in the troughs and frost are worth considering. As to the first one, I could not give figures, but a good many of the farmers of Southern Manitoba who water in the stables, could give the rest of us facts on this point. The cost in many barns, where buildings have been put up with this plan in mind, has been very light. As to leakage, I know of one or two barns in Ontario and several in Western Canada arranged this way and have never heard of serious, if any, trouble through leakage. Where moderate care is taken in fitting up the troughs and in using the water, there should be no trouble from this cause. As to dirt, chaff, etc., in the troughs, if lids are used, as in a great many of the best stables, there is no trouble in this case. As to frost, that will give no trouble where there are any number of stock in a warm stable.

There are a good many points of a very



Bunch of Range Cattle near Red Deer, Alta.

the summer season, being warmer and green grass abundant, is a more suitable time for raising young pigs than the winter season. When the young pigs are able to drink it they should have access to skim milk. After a while a little sifted oat chop should be added to it. Weaning should take place when the pigs are from six to eight weeks of age. After weaning skim milk with bran and shorts, or ground oats, is good for them.

It is good for spring litters to have along with their other food a pasture on which they may feed at will. But, if it is necessary to keep them in a pen, they should have a yard attached to it in which they may run and feed at will; green food, such as green peas or vetches, should be cut and given them to supply the place of pasture. For autumn litters, access to a yard is beneficial, as this encourages them to take exercise. Plenty of bedding is required and it should be changed frequently. This is necessary to prevent dampness, as it has the effect of crippling the limbs. Besides skim milk they should have bran, shorts, oat chop and roots. Meal and roots are better than meal alone. When fattening, the pens should be kept at an even temperature of 45 degrees. They should get all the food they will eat, but no more. Food which will produce fat must be supplied; of these wheat, oats and barley are good, if mixed; or wheat and barley will do, but other rations just as suitable might be named.

is a quarter of a mile away, and down hill at that (like one place with which the writer is pretty familiar) then it will not likely pay to pump it to the stable. But if, as on plenty of other farms, the water can be conveniently pumped either in or into the building, then it seems very questionable if it will not pay to have things arranged that way.

There are various advantages in connection with this system of watering. In the first place, cattle can be watered at any hour of the day or evening. Where a wind mill is used for pumping, or the pump is indoors, this convenience is even more apparent. Probably plenty of farmers who live on farms where there is limited help, and who have to go to town, to the woods, etc., will agree with me that it is not always convenient to spend half an hour or more watering cattle in the middle of the day. In the second place the trouble of watering is small where troughs are used that stock can be watered two, three or even four times a day with very little extra trouble, if one desires to do so, and when cows are getting dry straw or hay and chop with no roots, ensilage or other succulent food, this advantage may be worth something. In the third place, every animal can have all the water it wants without fear of being molested or made afraid. Mr. Hutchinson's plan of shaking out hay or straw in the yard to divide the attention of the cattle and keep them from crowding around

practical nature in connection with this subject upon which it would be worth while having an expression from farmers who have tried watering indoors. The farmers in southern and central Manitoba (Manitou and Pilot Mound especially) should have something to say from an experimental standpoint.

As to cattle needing fresh air and exercise, there is no doubt that they do, but it is quite possible to water indoors and turn out at noon for exercise as well. The one does not necessarily interfere at all with the other. The address of J. H. Grisdale, B. Agr., before the Eastern Ontario Butter and Cheese Association's convention, held at Kingston last January, was quoted from to show that "experiment had conclusively proved that light, reasonable exercise was not only good, but necessary." Very true. A few more quotations from that same address as regards the importance of exercise and shelter from exposure would also be of interest. Here are a couple:—

"It is best to water inside, as then each animal is likely to get all she needs and is not rushed. A large yield of milk needs a large supply of water. Warm water will increase the flow of milk, but not enough to pay the expense of warming."

"Warmth is most essential to dairy cattle. Exposure is sure to affect the milk flow most injuriously. In Indiana an experiment was conducted recently where it was shown that the loss from one cow

exposed to the weather forty-eight days was \$4.26."

In short, the teaching was that, while exercise was necessary, it could best be taken in some sheltered spot, which seems to indicate that so far as possible all barns and stables should run east and west with yards on the south side sheltered by tree belts or other wind breaks.

Stockmen at Maple Creek.

A large gathering of stockmen at Maple Creek was addressed recently by Col. Herchmer on the recent outbreak of mange. He stated that mange had been prevalent on the cattle ranges on both sides of the line for a period of five years, that its spread was natural and that though still in its incipient stage, it was getting worse and that active measures must now be taken to put a stop to it. The Americans, he said, were fully alive to the situation and were keeping a close watch on the Canadian border. The N.W.M.P. had given orders to the Americans to dip any Canadian cattle found at their round ups, the charges to be paid by the owners. Thus American stockmen were dipping Canadian cattle, and Canadians dipping American cattle found within the 30 mile limit. All stock, he said, would have to be inspected, and infected animals dipped.

Supt. Moffat, of the N.W.M.P., read extracts from the Contagious Disease Act and advised the stockmen to build a dipping vat. It was finally decided to build a dipping vat, and that the members were to be taxed for it according to the number of cattle dipped. The N.W.M.P. undertaking to collect the expenses of the dip from the cattlemen.

Prizes at Paris.

The prize lists for the great International show to be held at Paris next year are now being sent out. On horses a total of \$100,000 will be spent. Every award will carry a medal besides the money prizes, which are numerous, running up to \$300 and down to 6th places. In cattle Shorthorns will be the most liberally dealt with, prizes running from \$140 downwards. Every breed known to civilized countries will have a chance, but as yet there is only provision made for breeders, no fat stock prizes being offered. France and her colonies have about 20 various breeds figuring in the prize list, besides those raised in common with other countries. For sheep and pigs the prizes go from \$60 downwards. This division of the great world's show will run from June 21 to the end of the month, after which three days will be allowed to dispose of the stock by private and auction sales.

Trotting Bulls.

In its Manila campaign the U.S. army has taken a leaf out of the book of native experience and horsed one of its artillery batteries with native buffalo bulls. On a good road they have been known to run three miles in twenty-five minutes, drawing a field gun. The men on that battery are quite proud of their mount and groom them as carefully as they would horses. They are herded round camp when not on active duty, a man on bull back doing the herding.

The last half of August saw the highest price for years for Shorthorn beef cattle, \$6.50 to \$6.60 for 1,400 to 1,600 lb. steers at Chicago.

WOODBINE FARM, CARBERRY, MAN.

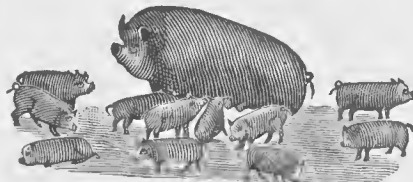


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Spring boars all sold. A few nice young sows left, from 4 to 6 months old; also a grand litter farrowed July 19 from "Rosamond," the mother of prize-winners; also a lot of August pigs for sale. Some grand young B.P. Rock cockerels, \$2 each. Correspondence solicited. Address—

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JERSEY BULL FOR SALE.

No. 50202. 2 years old in February. Solid color, black tongue and switch. Took 1st prize in Winnipeg as calf.

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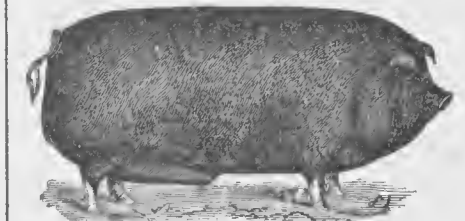
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What Cattle Mange Is.

Cattle mange is a very ancient contagious disease. Moses described it. It is due to a parasite, the *Acarus Bovis*, an insect provided with four pairs of legs, covered with hairs and scales, and furnished with suction cups and armed with claws or hooks and provided with mandibles or jaws.

The female insects are larger than the males, they lay from ten to twenty eggs. At the end of from four to seven days the young larvae hatch out. They change their form, i.e., undergo metamorphosis, three or four times before they arrive at the mature stage and are able to reproduce. They mature in from fourteen to seventeen days, and live from three to six weeks after laying, their life being longer and more active in damp weather. In a dry place the eggs lose their vitality in from four to six days. Any of the different antiseptic drugs will kill them, as will also potash solution, lye, turpentine, tar, tobacco solution, sulphur and soft soap. A mixture of sulphur and quick lime made into an emulsion with coal oil and warm water is particularly destructive to them.

The parasites live on the surface of the skin and adhere to the fatty matter and the hairs. They produce an intense inflammation of the skin through the numerous stings which they inflict. They are easily seen with a magnifying glass upon any dark surface. In handling the afflicted animals, should any of the parasites get upon man they quickly die. Mange is never developed, but from mange a spontaneous cure has never been seen. The only safe diagnosis is the microscopic search for the *Acarus Bovis*. After exposure from the time the parasite is deposited upon the body to the time of the inflammation of the skin there is an incubative period of from two to six weeks, depending upon the number of parasites transmitted.

Animals which are emaciated or weak and in poor condition are particularly predisposed. The disease first appears as pimples and vesicles, then scaling and the formation of crusts and scabs. These are attended by intense itching, worse during the hot part of the day. Animals scratch, rub and bite themselves on affected parts, the hairs fall out, the skin becomes bloody and thickened, ulcerated, scabby and wrinkled. The whole surface of the body may be invaded, but the disease usually begins on the sides of the neck and shoulders, the base of the horns and the root of the tail, spreading thence to the back and the ribs.

Treatment should be preceded by a careful scrubbing of the skin to clear off the crusts and must be renewed after some time. The first treatment only effects the parasite, but does not kill the eggs. In about a week these give birth to new parasites. In many cases it is necessary to make a third application.

In view of the fact that it is the intention of the Stock Association to immediately build dipping pens, it is unnecessary to detail particulars of treatment here.

Immediate and accurate diagnosis and vigorous treatment are necessary because:—

1. The longer the disease exists in the individual animal the harder it is to cure it.
2. The more the contagion is spread to other animals, both by immediate contact and indirectly through corral, fences, sheds, etc., against which the animals scratch themselves.
3. Should the disease become at all prevalent the whole of the stock country in which it exists will undoubtedly be

quarantined.

4. The treatment of the few animals now afflicted entails the outlay of a very small amount of money, while, if the disease becomes largely prevalent, the cost will be very great.

It is a serious mistake for ranchers to conceal the fact of the existence of the disease in their herds. The port through which all our cattle are exported is Montreal, where there is in force the most rigorous contagious disease act. Many ranchers imagine that if they can get their animals past the Medicine Hat inspection they are all right. This is a mistake, as the Montreal inspection is most rigorous, and any affected animals found on the wharves at Montreal will certainly be either killed or sent back to the ranges at the owner's expense, as the authorities there have the power to do, under the Quebec Act. For this reason it is an absolute necessity to have a thoroughly qualified inspector at Medicine Hat, one of undoubted ability, whose decision can be absolutely relied upon and who can command the confidence and co-operation of the stock owner, and thus prevent the liability of infected animals being shipped to Montreal, where the result can only be disastrous to the whole ranching country. The necessity of the inspector being able to diagnose the disease with certainty is best illustrated by the fact that although it has existed in the country for at least two years, its true nature was not discovered by the various veterinary inspectors until quite recently.—Medicine Hat News.

To Stockmen.

The Sec.-Treas. of the Medicine Hat Stock Growers' Association has sent the following letter to all members of the association:—

On the 10th inst. word was received that mange had broken out among the herds of the district, and had assumed a serious aspect. A telegram was at once forwarded to Com. Herchmer, N. W.M.P., at Calgary, who ordered up a veterinary staff constable from Maple Creek to investigate, and upon his report the cattle of the district have been quarantined from Morse to Langevin, and from the south Saskatchewan river to the international boundary line.

A dipping station for the treatment of cattle infected with mange was established at Kipp, Alta., some time ago and has proved very satisfactory in eradicating the disease. A meeting of stockmen was held here on Friday, the 18th inst., and was attended by Dr. Burnett, V.S., N.W. M.P., who addressed the meeting, and it was decided to build a dipping station for the district of Medicine Hat, at or near the head of Plume Creek. I beg to draw your attention to the following extracts from the Cattle Quarantine Regulations, as follows:—

"It shall be unlawful for any person to have in his possession or under his charge an animal affected with the disease of mange, without causing it to be treated with some dressing, dipping or remedy for mange."

"The Minister of Agriculture is hereby empowered to authorize any of his duly appointed veterinary inspectors, to cause any animals suffering from mange to be collected and treated with such dressing, dipping or remedy as may be prescribed by the chief veterinary inspector, all expenses of such collection and treatment to be a charge against the animals and owners until such payment be made."

Recognizing the great importance of checking and stamping out this very serious contagion, this association would

ask the active co-operation of all stockmen in this district in carrying out the provisions of the Cattle Quarantine Regulations, and watching their herds, and, in the case of animals showing infection, sending the same to the dipping station for treatment, as soon as the same is established and of which notice will be given.

The Word "Maverick."

There is probably not one cow puncher in two hundred who can tell where the term "maverick" originated, or how it was first applied to an unbranded animal. It has been used by ranchers almost as long as anyone can remember, and to this day the majority of people believe that the proper definition of the word is an unbranded cow or steer. There is a little piece of history connected with it which explains how the word was first used as it is. In the early days in Texas lived a man whose name was Samuel Maverick. He owned immense tracts and was known far and wide as the cattle king. At one time he had a debt against a stockman which he could not collect, so accepted 400 cattle at \$3 a head in full for all demands. He placed a trusted negro in charge of the stock and paid no further attention to the herd. At the end of four years he sold the original cattle at \$6 a head, but did not take into consideration the natural increase. He branded no calves and the consequence was there was on the range a large number of unbranded cattle. When, therefore, stockmen came across unbranded animals they would say, "That belongs to Maverick," or "that is Maverick's steer," and that is how the term Maverick originated and began to be applied to all unbranded stock. The term took with cowboys and stockmen, and it was not long before it was universally used over the American continent.

A Year's Record With a Scrub Cow.

The best cow owned by the Kansas Agricultural College gave last year 9116 lbs. of milk and 383.7 lbs. of butter fat; value of products for the year was \$73.17. For the best month last year she gave 977 lbs. of milk and 37.12 lbs. of butter fat. For the first month of this year her milk yield was 1250.1 lbs., which made 44.89 lbs. of butter fat. This is an improvement over her best month last year of 273 lbs. of milk and 7.77 lbs. of butter fat, or 21 per cent. Such gains show what can be done by feed and care, and if the farmers will pay more attention to this part of the work they will realize more from their cows.—J. A. Conover, Kansas Experiment Station.

Last year the receipts of cattle at the chief market centres showed a heavy decrease over previous years. This year's shipments so far show a decrease of between 50,000 and 60,000 from last year's light shipments.

Prices for prime beef cattle are up to a good figure in the large U.S. cattle markets, and some shippers think they have reached top notch and will decline. Other large experienced shippers say that prices will not decline because general business throughout the country is good and all the meat eaters so well employed that good prices will be paid for meat. Still, there can be no doubt that high prices will check the demand for consumption to some extent.

Early Maturity.

Farmers in the west generally, understand the value of an early maturing variety of wheat. Efforts have been and are still being made to secure an earlier ripening variety than we now have, but farmers are now learning how to cultivate their land so as to have their wheat ripen before frost may be expected and not continue growing until late in the season. Years ago feeders of cattle realized exactly the same truth in feeding cattle. The cattle in those early days required four and often five years and more to reach maturity under the care and feed given them. Intelligent feeders soon found, however, that by giving the cattle better care and by feeding more liberally the cattle attained their full growth much earlier. This was continued generation after generation and now the habit of maturing early has become fixed in our improved breeds and is as regularly transmitted from parent to progeny as are other characters. So great is the advancement that has been made in this direction that representatives of our improved breeds mature as fully at about two and one-half years old as the old style of cattle used to do at four and a half. This improvement does not relate to size only, but to every part of the body, including the bony structure. The best evidence that this change is complete in every part is shown by the teeth, which show as complete dentition at the early age as they used to do at the older age. Thus early maturity may be said to be chiefly the result of liberal feeding continued for generations until rapid and continuous growth has become a part of the nature of our improved breeds and is regularly transmitted from parent to progeny.

It is this trait which makes the pure-bred animal more valuable than the grade or scrub. It is this inherent ability to transmit the rapid fleshing qualities of his particular breed that makes any pure-bred sire of the beef breeds valuable for crossing upon the common stock of the country. He transmits to the progeny his own rapid fleshing qualities and these animals, if fed in a way similar to that followed in developing these qualities in the first instance, will give rapid returns. If, on the other hand, a policy of poor feeding, with inadequate shelter, is practised, there will be a quick reversion to the old type of slow maturing stock, with consequent disappointment in the sire and with the breed he represents.

Partial reversion is taking place in the herds of some of the farmers who purchased pure bred stock some years ago. One meets them when moving round the country, and it is not surprising to hear such men say that their pure-bred stock is not doing one bit better than their common stock, if as well. This stock, before they purchased it, was brought up on a liberal allowance of feed and with such shelter as is conducive to rapid returns, but, give them poor treatment, give them scrub treatment, and scrub returns will be the result. The progeny of well bred animals can be greatly impaired by scanty feeding and poor shelter. A generation or so of such treatment will so impair this valuable feature of pure-bred stock that a breeder feeding in this way will find it very difficult to make sales. No one can blame a man for not wanting to purchase such stock. If a farmer cannot give pure-bred stock better treatment than he does his common stock it is a question if he had better not leave them alone. With poor treatment the scrub has managed to make a living and this being to it natural conditions, it does the best it can. The pure-

bred animal on the other hand, is out of its natural condition under illiberal feeding and cannot do the best it can, in fact, may often give returns inferior to that of common cattle. But who will contend that the ability to withstand and thrive under illiberal treatment is a valuable quality in our domestic stock? More liberal treatment of stock throughout the west during the winter would result in much greater profits, for then they would begin spring with increased vigor and be ready to make the greatest progress towards maturity on grass. Keep the animals growing as rapidly all winter as on grass is the way to get early maturity. With the quantity of feed that is likely to be on hand this winter more liberal feeding should prevail.

Medicine Hat Stock Growers' Association.

At a special meeting of this association held on the 18th of August, Inspector Burnett, the senior veterinary inspector of the N.W.M.P., spoke on the recent outbreak of mange in the stock districts. Dr. Burnett in his address stated that he had with Col. Herchmer met the chief veterinarian of Montana Mr. Knowles, and talked over with him the question of mange and the steps that were to be taken in stamping out the pest. There is little use trying to stamp out mange on this side of the line so long as strays from American ranges are allowed to run at large on the Canadian ranges, as parasitic mange is prevalent there. Mr. Knowles agreed to have rounded up all American cattle at large on Canadian ranges 30 miles north of the boundary line, from Coult's on the west to Frenchman's Creek on the east, a distance of about 175 miles. These cattle are to be returned to Montana and American cattle found north of this limit are to be taken up by Canadian stockmen treated and the expense charged to the Montana Stock Association.

Dr. Burnett further stated that Col. Herchmer had recommended that two dipping stations be built one at Medicine Hat and the other at Maple Creek and that he had applied to the Department of Agriculture for a grant of \$150 for each station to help defray expenses. A supply of dipping material was coming from Macleod and the dipping station would be placed in charge of an officer of the N.W.M.P. as soon as it was ready.

Dr. Burnett also stated that at the Macleod dipping station the cattle had had three dippings at intervals of three days. He advised placing the dipping vat as near to running water as possible. The quarantine now extends from Morse, Assa., to Langevin, and from the south Saskatchewan to the boundary line. The Red Deer district has not been quarantined yet, but all cattle should be inspected before being shipped. The districts where mange is known to be are all now quar-

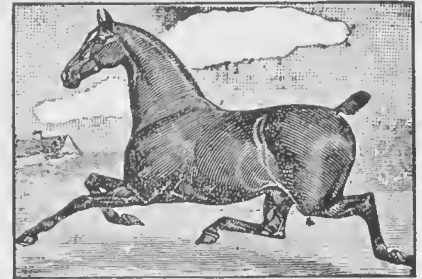
antined and all stock shipped must be inspected and all stock having the appearance of having mange must be treated either at home or at the dipping station.

At a meeting of the executive held at the close of the general meeting, it was decided to erect a dipping station at Carle's old ranch at the head of Plum Creek.

HOLSTEIN BULLS FOR SALE

One yearling bull, ready for service, and one three months old bull calf. Both out of Tempest IV., a cow that gave 101.50 lbs. of milk, containing 3.39 lbs. butter fat, in two days at Brandon Fair.

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This herd comprises several head of imported Jerseys. It won the herd prizes at Toronto and London Fairs last fall.

SHEEP.**Wolf Bounties in the Territories.**

The Territorial Department of Agriculture have decided to reduce the bounty paid on wolves and only pay dollar for dollar with the Stock Growers' Association. In the past the association have only supplemented the government grant, but in the future they will be required to pay half the regular bounties. This will mean an outlay far in excess of what they have paid in the past. The following figures from the Macleod Gazette shows how this will affect the association, which, we are led to believe, did not understand that this was to be the action taken by the government.

"Last year the amount received from the Territorial Government by the association for the wolf bounty fund was \$3,000, and the amount actually expended out of this was \$2,703. This was the government's share. Against which the association expended from its own funds, in extra bounties, \$790, being about in the proportion of 1 dollar to 3½. If the government bounties are left unchanged, as proposed, and supposing that this year's wolf crop is up to that of '98, then the association, without paying any additional bounties, will have to put up \$1,366, which the government will have saved—out of the pockets of the stockmen."

In connection with the same subject, the Medicine Hat News says:—

"We have been wondering if the government is expending dollar for dollar with the farmers of Eastern Assiniboia in the expenditure on noxious weeds. The cases are analogous. The government assists the ranchers to kill the wolves; the government assists the farmer to kill the weeds. The rancher, through the stock associations, is asked to place his dollar alongside the government dollar to assist in the work. Is the same levy exacted from the farmer? or is the rancher "easier," or is the farmer more deserving, or a greater contributor to the general prosperity of the country?"

The amount devoted to the destruction of noxious weeds is \$2,500, towards which the farmers do not contribute at all. It is natural, then, for the stockmen of Alberta to object to a tax, as they look at it, of \$1,366 for the killing of weeds in Assiniboia.

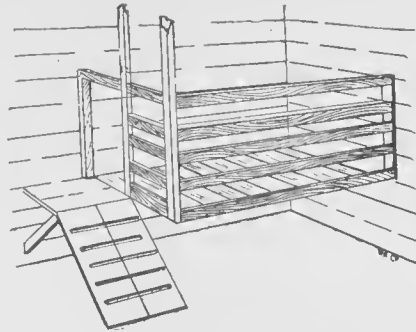
Sheep render as large returns for a liberal ration of good feeds as almost any other domestic animal.

Good animals never come by chance or haphazard methods, they have been the product of a high degree of intelligence, skill and ability.

The western states are making as big a call for rams this fall as they did last year. It is expected that the demand will be, if anything, greater than it was last year.

Mutton is always saleable and is not affected by the tariff, therefore give the mutton producing qualities close attention when selecting rams this fall, but don't neglect the wool producing qualities when doing this.

The latest returns from Australia show that the shortage of the wool clip is not nearly so serious as was expected. The largest decrease has been from New Zealand. Some writers claim that the small shrinkage is due to more careful clipping and the introduction of American merino rams on the Australian range, the cross producing lambs carrying a much more heavy fleece, yet every bit as fine as that of the home bred sheep.

SWINE.

Sleeping Pen for Pigs.

The above is an illustration of the sleeping pen used by Jas. Montgomery, Neepawa, Man., in his hog pen and described in notes from Neepawa in "Among the Farmers," page 403, June 20th issue, 1899.

Pig Feeding Problems.

In our last issue "Hay Seed" asked questions as to the feeding of damaged wheat in combination with buttermilk, and the value of cooking that wheat. These questions can only be settled with any degree of exactness by reference to the now, fortunately, rather numerous records of trials made at experiment stations, and as they are of real practical interest to every feeder, we again take up the subject. It is pretty well known already to every well informed feeder, that a growing animal takes more out of any kind of feed than one approaching maturity. Variety is another point to be taken into account. A continuous diet of any one thing, however excellent, is sure to give unsatisfactory results, and the intelligent feeders who carried out these tests have, as far as possible, combined the foods given in such a way as to secure a balanced ration, involving the least possibility of waste of any of the component parts of the feed. Reference will be made to this point later on.

We refer to Professor Henry's work, "Feeds and Feeding," for most of the information that follows. It must be understood that he is an experimenter of ripe experience, capable of sifting out of his own and other men's work the vital features and throwing out all cases whose authority is doubtful. In five feeding trials conducted by himself, Professor Henry found a slight gain made by cooking the feed. In other ten the result was the other way and he found no case out of many elsewhere in which cooking did any good. The conclusion to be drawn is that cooking is not conducive to thrifty digestion and tends to waste. Ohio (in winter) showed 21 lbs. greater gain for 270 lbs. less corn in a test extending over 112 days between cooked and dry corn.

All the tests collected averaged 6 per cent. of actual loss from cooking. Perhaps, as we noted in the reply to "Hay Seed," the cooked feed was quickly gobbled up and therefore less mixed with gastric juice than was the case with dry feed that had to be well masticated.

Experience at four stations goes to show that 451 lbs. of grain, after being soaked, made as much gain as 483 lbs. fed dry, or an average of 7 per cent. in favor of the soaking. Grinding gives about the same advantage over whole grain as soaking over dry feeding. The above noted experiments were all made with different blends of feed, corn being the principal ingredient all through.

Perhaps the fact that cooking versus dry feeding causes loss, while soaking works the other way, may be accounted

for by the soaked feed being more slowly eaten than if it were cooked. Mere appetite is no adequate test for the amount it is desirable to feed. Corn fed steers for example, get into the way of eating much more than they can properly digest and hogs are usually put in the feed lot to pick up a living from their droppings.

Many experiments go to show that a mixture of corn meal and shorts is one of the most profitable rations for pigs that can be used. Barley meal, especially, when used with skim milk, has long been the favorite blend with English feeders, and on this side is equally good. Bran is a very unsatisfactory feed for young pigs—far inferior to shorts, no matter how mixed with other grains, and it is irritating to the bowels, often causing scouring.

Skim milk in moderate quantities combined with corn, frozen wheat, barley or shorts, is of special value. It helps to make a balanced ration along with corn, that in the States will turn out cheaper pork than any other food grown. If three pounds or thereabouts is fed with each pound of grain there is a much larger proportional profit than when larger quantities of milk are fed. Every careful test, and ordinary observation as well, goes to show that to feed pigs of any size with milk alone or with little other food is a very wasteful process. Professor Henry's own experiments go to show that with corn at \$12 per ton, two or three lbs. of milk fed along with each pound of grain, will produce a value of 18 cents per 100 lbs. for the milk, while if 8 to 10 lbs. of milk is given with each pound of grain, the value of the milk will be only 1½c. per 100 lbs. That is—the less milk we feed daily, the more profit does the pig take out of what it does get.

In a quite recent bulletin of the U.S. Department of Agriculture reference is made to an experiment made by C. P. Goodrich, in which 56 lbs. of corn made 10 lbs. of pork and 100 lbs. of skim milk 5 lbs. of pork, while the same quantity of each when mixed made 18 lbs., an increase of 3 lbs., attributable to the mixing. By this test, with corn at 40c., 100 lbs. of skim milk was worth 30c. feed value—too high for business feeding.

A similar experiment at Utah is referred to in the same bulletin. To make 100 lbs. of gain with corn alone it took 79 days with grain and milk; 116 days with grain alone and 147 days when the feed was milk alone. In this case 100 lbs. of skim milk took the place of 23 lbs. of corn. The conclusion reached by the writer of the bulletin is that "when not more than 4 lbs. of milk is used with each pound of grain the milk is worth from 15c. to 20c. per 100 lbs.. The younger the pig the more profit it will take out of the milk. It may be taken as a safe rule that it is profitable to pay at least 15 cents per 100 pounds for all the skim milk needed to make four times the weight of the grain fed and where it is impossible to secure enough for all the hogs the available supply should be given to those pigs nearest the weaning age and to suckling pigs."

This is in exact accord with what we said to "Hay Seed" as to the relative value of skim milk as pig feed.

There is a general agreement that sour milk is preferable to sweet skim milk for pigs. Careful tests show that buttermilk has the same feeding value as skim milk, always provided it is not diluted with water before it reaches the pigs.

The advantages of growing improved stock does not lie merely in its better adaptation to the wants of the market and to the fact that it will respond more promptly and continuously to feed; the early age at which it matures is one of the sources of profit to its owner.



Answers to Questions.

By an Experienced Veterinarian.

As it is desired to make this column as interesting and valuable as possible to subscribers, advice is given in it free in answer to questions on veterinary matters. Enquiries must in all cases be accompanied by the name and address of the subscriber, but the name will not be published if so desired. Free answers are only given in our columns. Persons requiring answers sent them privately by mail must enclose a fee of \$1.50. All enquiries must be plainly written, and symptoms clearly but briefly set forth.

Disease of Kidneys.

James Tough, Edmonton: "Have a horse seven years old which four or five weeks ago became weak in both hind quarters; at first he spraddled badly, still spraddles some and drags his hind feet, eats fairly well and otherwise seems to be in good health. Received no hurt in the back that I know of. Please state the trouble and your treatment."

Answer.—The symptoms indicate derangement of the urinary organs. Give the following powder in his feed twice a day: Powdered digitalis leaves, twenty grains; boracic acid, three drachms. Do not give much grain, but feed bran mash with a little linseed meal or ground oil cake. If carrots are procurable, give a few every day.

Impure Blood—Diarrhœa.

Old Subscriber Turtle River, Man.: "Will you kindly tell me what is the matter with my 5-year-old mare. She was very dull about two weeks, got some better for about two weeks, then was taken worse. V.S. said she had a very heavy cold on the lungs; he gave me medicine for her. After giving the medicine her legs began to swell. One of them broke in three or four places and commenced scouring, and has been scouring for four or five days. Has got very weak and has not laid down for two weeks. Eats very little. Please tell me how to treat in such a case. Is it contagious to other horses. I have a pig three months old with a rupture on the navel; would it be safe to keep him for a boar?"

Answer.—Procure from a druggist one pint of tincture of perchloride of iron and give the mare one tablespoonful in a pint of water three times a day. After a week of this treatment change to the following: Sulphate of soda and chloride of sodium of each one pound, bicarbonate of soda, one and a half ounces. To be finely powdered and mixed together. Dose—a large tablespoonful in the feed three times a day. Bathe the swollen legs with hot water and treat the running sores by injecting into them a lotion composed of a tablespoonful of creolin mixed with a pint of warm water. Feed liberally.

It would be safe to keep the pig for a boar, as rupture of the navel is not dangerous, but it would be unwise to use an unsound animal for breeding purposes.

Eczema.

Subscriber, Gladstone: "I have several horses (one a gelding eight years old, draught, and two mares four and five years old, light), that are affected with what appears to be scratches. It is some swelled and looks as though burnt with a rope. I have been feeding the follow-

ing mixture, in bran: One part each of sulphur, copperas, saltpetre and gentian. They are on the grass every evening and all day when not working. Are fed oats and prairie hay; are in good condition. Kindly prescribe and oblige."

Answer.—Give to each horse twice a day a half teaspoonful of grey powder and bathe the parts affected with the following lotion: Picric acid, one ounce; alcohol, six ounces; water, one and a half pints.

Chronic Grease.

M. D., Whitewood: "Horse had grease very badly, but stopped after a while; legs are still swollen and very cracky and do not heal nicely; blistered twice this summer, but do not get sound."

Answer.—Give a half teaspoonful of gray powder in the feed twice a day, exercise or work the horse every day, and apply following lotion to parts affected: Red iodide of mercury, one drachm; iodide of potassium two drachms; water, one pint. Wet the scaly cracks twice a day with this.

Anaemia and Debility.

Farmer, Sidney: "Kindly advise me through The Farmer, what is the matter with my mare, which is eight years old. She has a slight cough, slightly swollen under the throat, swollen in hind legs, udder also swollen; dry coat, appetite poor. Also have a horse, eight years old, which is off his feed, seems very weak and staggers some when he walks; slight cough; coat is very good; sometimes swollen in all four legs; has failed very fast lately. His feed consists of hay and oats, fed boiled oats twice a week. Have been feeding a gallon oats at each meal and work has been light. Please prescribe and oblige."

Answer.—Your mare appears to be generally run down and suffering from anaemia. Give her one drachm sulphate of iron and one ounce sulphate of soda twice a day. Foment the swelled legs with hot water and rub the throat with a good liniment. Shake up the dose of medicine with some water in a bottle and administer in that way at first, when the appetite returns it may be given in the feed. Give chiefly soft feed and change it often, to tempt the appetite. The horse requires a somewhat similar treatment, but should also have stimulants to overcome the debility. Give him sulphate of iron twice a day in a bottle of good ale. Has your

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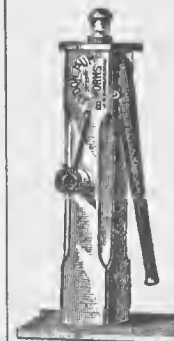
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feed been musty? If so, change to sound oats at once.

Warts.

Subscriber, Shoal Lake: "I have a yearling heifer which has had warts on her cheek for over four months. They are from the size of a bean to half the size of an egg. They are extending down to about the chest and are a little smaller than those on the jaw. Will you please tell me, through the columns of your paper, what is the best cure for them?"

Answer.—Procure from a druggist some of the solution of chloride of antimony (liquor antimonii chloridi) and apply it to each wart with a feather or small brush. Avoid touching the surrounding skin with it. This liquid caustic will destroy every part of the wart it comes in contact with and for small warts only one application will be required. The larger ones will need to be touched again after the tough scab which forms after the first application has dropped off.

Injury to Foot.

"Tyro." Glendale, Man.: "Horse, 8 years old, while out galloping, suddenly went lame in nigh fore foot. Pared hoof but found nothing in it. Shoulder is all right. When walking he goes on the toe of the foot, but when standing puts it out in front as far as he can reach. What is the matter and how can it be cured?"

Answer.—Your horse has accidentally injured some of the structures in the posterior half of the foot. As you have pared the foot carefully and found nothing we may exclude the possibility of his having stepped on a nail or stub of wood, which would produce a painful penetrating wound. The next most probable injury he could have received is a severe strain of the "perforans" tendon, where it enters the foot, passes under the navicular bone and is attached to the coffin bone. This tendon, when strained or partially ruptured in this situation, will produce the symptoms you describe. The fact of the lameness occurring while galloping is additional evidence to its probability. Recovery from this injury will be slow. The injured part is in a situation where local remedies cannot reach it and almost the only assistance that can be given to nature in repairing the damage is to place the part at rest as much as possible. To this end the animal should be closely stabled and not taken out even to water until after the first soreness has disappeared. A high heeled shoe applied to that foot will be of use in placing the parts in the most favorable position for healing. After recovery has taken place the tendon will remain weak for some time and very liable to become strained again from slight causes. On this account the horse should not be used under the saddle until it has been free from lameness for some little time, but harness work is much less liable to cause harm.

If that sow of yours is a good breeder and milker, do not on any account fatten her to save winter feed. She can live on very little all through the winter. Let her pick up all she can in the barn yard, throw her out a handful or two of grain on the clean snow and give her the chance to get a pail of dishwashings daily. Breed her to come in about March and plan next year to have another litter in early fall. There can be no better investment than such a sow. Stay with it if it is good money you are after.

No breeder or feeder loses anything by keeping his hogs in condition almost ready for market.



Creaming Milk by Dilution.

The fat of milk exists in minute globules held in suspension. The size of these fat globules varies according to the period of lactation, breed and several other factors. Their size may be better understood when we say that it takes twenty-five average-sized ones placed side by side to equal the thickness of ordinary letter paper. In creaming the milk the object is to separate these fat globules from the liquid or serum in which they float. We are enabled to do this because the relative weight of the fat globules is slightly less than that of water or the serum of the milk, i.e., its specific gravity is less. Anything which tends to increase the difference in the specific gravity between the fat globules and the serum aids in creaming. In this way deep setting in cold water aids because the colder the serum gets the greater the difference between its specific gravity and that of the fat globules, and hence the more rapidly they will rise. Large fat globules rise more rapidly than the small ones and some of the smallest ones never reach the surface at all.

As the period of lactation lengthens the fat globules become somewhat smaller and creaming more difficult. It was suggested that diluting the milk with water would assist the fat globules in rising. Experiments along this line were carried on at the Experiment Stations in Illinois, Vermont, New York (Cornell), and Indiana in the early '90s. The Illinois experiments showed that when cows were well along in milk or gave a small quantity of very rich milk creaming was made more complete by diluting the milk with cold water. No advantage was found in diluting rich milk from a new milch cow.

At both the Cornell (New York) and Vermont stations extensive experiments were tried in diluting milk set in deep pails. The milk was diluted with from one-fourth to one-half (by volume) with water, both cold and hot, and tested against other portions not diluted. The temperature of the water around the deep pails also was varied from 40 deg. (ice-water) to between 50 and 60 deg. A summary of the Vermont experiments shows that there has been a gain in every case, by diluting the milk when it was to be set at 60 deg., while at 55 deg. there was a gain with fresh cows in milk but no gain with those far advanced in lactation. In the experiments conducted at the Cornell station the earlier ones did not show any advantage from dilution with either hot or cold water. More recent experiments, however, have given results more favorable to dilution especially when the milk was set at 60 deg. F., but the report says distinctly "this dilution cannot be regarded as a substitute for setting in ice water." In fact, both Cornell and Vermont found no advantage from diluting milk with cold water over no dilution, no matter whether set in warm water, ice water, or the open air. The use of hot water for dilution in all the experiments caused the cream to sour rapidly and in some cases effected the quality of the butter. The Vermont station found that when the milk was allowed to stand for 48 hours before being skimmed there was no advantage in diluting milk with either hot or cold water.

At the Indiana Experiment Station creaming experiments in diluting milk with water, both hot and cold, were tried. The results show a greater loss of butter fat in the skim milk when the milk was diluted than when it was not. The loss was greater with cold than with hot water. At the Ontario Agricultural College similar experiments gave similar results.

It will be noticed that under one certain condition the Vermont station found that diluting the milk gave the best returns. This condition was when the milk was set in water at a temperature of 60 deg. F. Cornell found favorable results under the same conditions but states distinctly that it is not to be regarded as a substitute for setting in ice water. Certain enterprising men have taken advantage of this one successful condition of dilution, have made convenient contrivances in which to carry out the plan and have placed upon the market the so-called dilution cream separators. It is not a separator in the sense the word is generally used, for that is applied to machines which separate the cream from the milk by centrifugal force. The dilution separator only separates by gravity, and can never skim as closely as any reliable cream separator.

Where there is a supply of ice and care taken to use it, better results in skimming can always be obtained by using the deep pails set in ice water than by the dilution process. If, however, ice is not to be had, and water cannot be had at a temperature lower than 55 deg. F., then, perhaps, it would be wise to dilute the milk with water to assist in creaming. With water at a temperature of 55 deg. F. and lower experiments show no advantage in dilution. The Cornell Experiment Station, speaking of the dilution separators, says, "They are no more efficient than the old fashioned shallow pan; but perhaps require rather less labor."

Promoters of these dilution separators in the United States have tried to make people believe that their patents covered the process of dilution as well as the particular form of construction of their separating can or vat. The Cornell Experiment Station has investigated some eight or ten patents for dilution separators in the U.S. Patent Office, and not one of them claims to patent the dilution part of the process. Indeed, they cannot, for it was generally known and practised in places years before any patent was applied for, and even without this it is a question if it could be patented. The object in trying to make farmers believe this, was to prevent them from using the deep pail or shot gun cans, which they already have. These, if half filled with milk and then filled up with water, will give every bit as good results as the special vat or can sold as the dilution separator and save the farmer the needless expense.

Many farmers in the U.S. prefer to use the dilution process because of the reduction of the labor required in handling the milk and do not care for the extra loss that occurs. At the Ontario Agricultural College the loss of butter fat by the dilution process made by one of the patented so-called separators was .6 per cent. An average of 150 tests at the same station of shallow pan skimming showed only .38 per cent., the same number of deep pail settings .31 per cent., and a good centrifugal separator will leave only .05 per cent. of better fat in the skim milk. This shows that with the dilution separator at least ten times the amount of butter fat is lost as need be with a good hand cream separator and five times as much as with deep setting. Besides this the cream sours quickly and frequently the butter is also injured, to say

nothing about the inferior feeding qualities of the diluted skim milk.

Creameries Prosperous.

The Provincial Dairy Commissioner has just completed a round of the creameries on the M. & N. W. and finds them all in good condition and as a rule doing an increased business. The same may be said of the creameries in other parts of the province. A number at the time of his visit in August had made as much butter as was made for the entire season of 1898. The prospects are good for the make of the Manitoba creameries amounting to 1,000,000 pounds this season, even if some of the creameries did see fit to close up. The excellent pastures that have prevailed have had a good deal to do with this.

The Shelimouth creamery has made 40,000 lbs. this season already and is one of the best kept creameries in the province. For neatness and cleanliness Minnedosa and Newdale take first rank. At Minnedosa the make is now over 50,000 lbs. The maker is Chris. Neilson and he uses a great deal of lime wash in his work. The store room is washed once a week with lime water and thus is kept sweet and clean. No mold has appeared in this store room, in fact, last year's trouble—mold—has not made its appearance in any of the creameries. The make has been sold close up all season and the results should give good satisfaction.

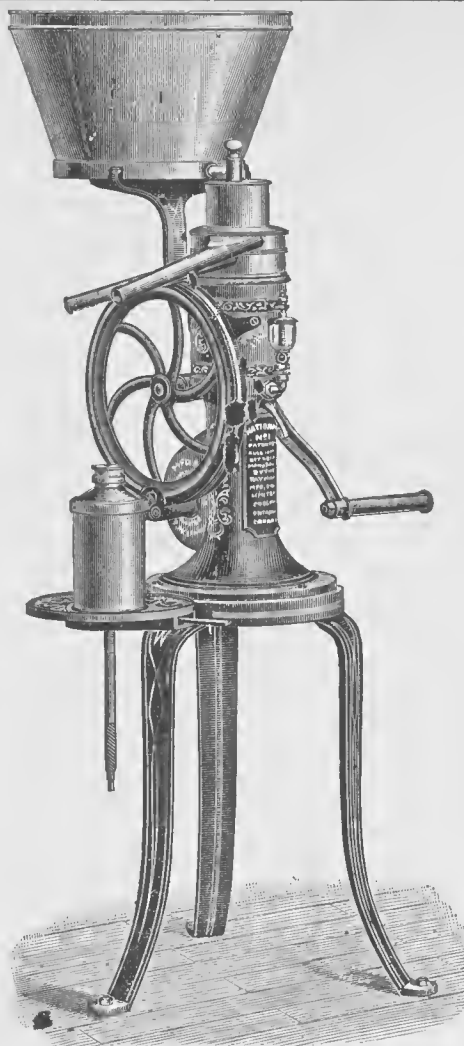
U. S. Dairy Report.

In the recent U.S. report of the Bureau of Animal Industry, Major Alford, Chief of the Dairy Division, pays a high tribute to the excellence of the refrigerator system of Canada. There is no refrigerator accommodation available on first-class ocean going freight ships for U.S. butter, while Canada has export facilities that can hardly be excelled. The rate on butter shipped in this way from Montreal is only about half a cent a pound, but this rate is for Canadian products only. The cost of experimental shipments of U.S. butter has run from 1½c. to 3½c. a pound.

Indirectly his report conveys a high compliment to the efforts to help the industry made by the Agricultural Department of the Dominion through the agency of Professor Robertson:—

"It is evident that to successfully introduce fine creamery butter from the United States and establish a demand for it in British markets there must be a considerable period of consistent effort. No regular demand can be built up unless retail merchants of a desirable class can be continuously supplied. The Department cannot establish this foreign trade in high-class butter, or even commence it, but it may do something toward ascertaining conditions which control such trade, present and prospective, and assist in making them known to many interested parties."

Major Alford goes on to point out why there has been no demand for American butter in England. Much of that sent in the past was put in all sorts of tubs, soiled outside and distasteful, on that account alone, to the section of the British public that can afford to pay well for what suits its taste. Denmark under instruction of skilled government instructors, has done all in its power to produce an article pleasing alike to the eye and palate of the British consumer and besides the advantage of nearness, has in this way reached the highest scale of prices. But Australia, with an enormous



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It is made of the best material, and by skilled workmen, with the aid of the most improved machinery.

It is simple in construction, attractive in style and finish, easy to run—so easy that a child from 10 to 12 years of age can operate it.

It is very easy to clean, on account of the simplicity of its skimming device, and has no equal as a skimmer.

A trial of this machine will prove true all that we claim for it. Try the "National" before purchasing, and you will save money.

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"NATIONAL" No. 1.—SKIMS FROM 330 TO 350 LBS. PER HOUR

TO WHOM IT MAY CONCERN.

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July 14th, 1899.

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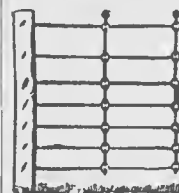
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CANADA FENCE CO., LONDON, CANADA.

See us at Winnipeg and all large fairs.

When writing advertisers, kindly mention The Nor'-West Farmer.

disadvantage both in distance and latitude, sent last year two and a half times as much butter to England as did the states. New Zealand alone sent more than the states, though all the butter from these colonies has to cross the equator via the Red Sea, one of the hottest regions on the surface of the habitable globe.

Just why the U.S. fails to find a market where produce from the Antipodes finds a ready sale, the report touches on with relentless accuracy:—

"The chief difficulty in establishing a good market in England is the apparent indifference of the American producer. The producer of high-grade butter in this country seems to pay no attention to export trade unless there is an over-production in this country. In order to be successful in introducing this product abroad our shipments must be continuous. This indifference on the part of our shippers is not overlooked by the English merchant, who is averse to working up a trade on a certain line of goods and then have the source of his supply shut off."

Not only must the supply and quality be regular, but, as Professor Robertson has repeatedly pointed out, we must study the taste of our customer. The demand for the right kind is all there and always there and if we want to sell we must meet it.

"For export butter more time and care in making and packing are essential; less attention to securing a "quick" high flavor, and more attention to good body. The flavor may be mild, rather slow in development, but should be "clean" and uniform month after month. The color in British markets is permitted to vary somewhat with the season, but very little artificial coloring is desirable at any time; and natural grass yellow is generally regarded as too deep. Some English markets prefer butter very pale, or a light shade of straw color. In salt there is almost as much difference in taste as in our domestic markets, with a tendency there as here to use butter with less and less salt. A further observation is that success will doubtless reward the enterprise of any one who will export fine butter in pound prints or convenient small packages for delivery unbroken to consumers, and press it persistently in London and other good English markets; but the desired end will be slow to reach. In such a venture it will be necessary to allow for shrinkage of weight on every small package as the market laws require full weight in all commodities that retail, and are strictly enforced."

"Fas est ab hostes doceri." The counsel that is good for the United States is equally good for Canada and not only for butter but for everything else we have to sell. We are making for ourselves year by year a reputation that will stick to us for good or harm all the world over. It is this carefulness about quality that has given the cheese industry of Canada its place of honor in the British market, and we may be equally proud of the reputation which Canadian agricultural machinery has won for itself wherever high-class farming prevails. It is the same in Australia as in East Lothian, our reapers and cultivators force their way to the front wherever tried.

A contemporary states that bakers desire to encourage the use of skim milk in bread-making for the following reasons: (1) It makes a loaf which is more moist and will remain moist longer; (2) it makes a closer loaf; (3) it improves the eating quality of the bread; (4) the sugar of the milk caramels in making and browns the crust.—Ex.

When is a Cow Pregnant.

The importance of having cows freshen just when we want them and when they will give us the greatest profit can hardly be overestimated. As an aid in this direction we give the method used by a correspondent of *Hoard's Dairyman* to tell whether his cows are in calf or not. He says: "The cow to be tested is of course milked separately and as soon as possible after the milk is drawn we dip a straw or timothy stem in the bucket of milk. Have a glass of pure water at hand and allow one drop of the milk to fall in the water—only one; if the milk quickly dissipates and renders the water murky, she is not in calf, but if the milk drop sinks to the bottom of the glass before mixing with the water, she is pregnant."

"If you are not sufficiently expert, take the milk of another cow that has newly calved, and pursue the same treatment with both, at the same time, and you will not fail to note the difference in the way the drop of milk will mix with the water. I have practised this method of determining pregnancy in my herd for years and I never knew it to fail."

"Of course, I only speak from my own experience, but the theory is that the milk of a pregnant cow is viscous, or has a sticky adhesive quality that causes the particles to cohere more closely; consequently the tendency to drop in a mass instead of mingling immediately with the

new, with their usual promptness and fidelity.

In the salesroom the display includes a sample of all kinds of machinery useful in the dairy, creamery and factory. A prominent place is given to some of the latest models of the Sharples Tubular Separators, the machine which is receiving more attention than any other in the creamery world to-day. The simplicity and resulting durability, together with the ease and safety in operation, which belong to this machine are at once apparent to any one familiar with modern creamery machinery. The Tubular represents the perfection of skill in the manufacture of cream separators.

There is in this section of the salesroom a full sample line of the latest Russian turbines and belt-power separators, together with samples of the several different sizes of safety, hand and light power, cream separators.

Another prominent place is given to the Squeezer Churn, in the large and small dairy and creamery sizes. This is a churn which combines such mechanical excellence and utility that it is meeting with great favor among progressive, practical dairymen and creamery men.

But space forbids the mention of milk vats, butter-workers, milk heaters, scales, feed cookers, tanks, tread powers, boilers, engines, gasoline engines, etc., etc.

Mr. P. M. Sharples, the largest manufacturer of cream separators in the Uni-



On the Farm of Wm. Topley, near Morden, Man.

water. I usually take the morning's milk for the test and use cistern or rain water if you have it, or, better still, filtered or boiled water."

In a New Field.

The Sharples Company, manufacturers and dealers in Cream Separators and all kinds of Creamery Machinery, is now located at Nos. 28, 30 and 32 South Canal Street, Chicago, Ill.

Realizing the advantages of a central location near to and in direct communication with all the dairying regions of the Ohio, Mississippi and Missouri valleys. The Sharples Company has established a western office, salesroom and warehouse at the above location.

The office is commodious and suitably appointed for the use of the manager and his assistants. The salesroom is well adapted to the exhibition of all kinds of machinery and fixtures used in dairies, creameries and factories. The store room furnishes ample storage for a large stock of separators, churns and creamery machinery. In the rear is established a machine shop for refitting and repairing dairy and creamery machinery and fixtures. The company is prepared to attend to the wants of their patrons, old and

new, is president of the Sharples company.

Mr. A. W. Rockwell, the secretary and treasurer, is favorably known throughout the dairying regions of the Northwest, having been for many years manager of the P. M. Sharples branch house in Omaha. Mr. Rockwell, as manager of the Sharples company, hopes to continue the pleasant business relation established with all his former patrons and also to make many new friends in this new and promising field.—Dairy and Creamery, Chicago.

Professor Roberts reports that the cows at the Cornell Experiment Station always yield less milk on a Sunday morning than on other mornings during the week, because those who milk them always sleep a little later on Sundays than on week days. This shows the importance of regularity in milking and if the milk of each cow was weighed night and morning regularly it would show farmers many an equally as important a lesson, which is now missed because the cows' milk is not weighed.

A little sal soda added to the water used for washing dairy utensils will be useful in clearing off that greasy appearance so often seen.

Co-operation in Minnesota.

In last December issue of The Farmer attention was drawn to statements made by Professor Haecker, of the Minnesota State Dairy School, about the operations of factory dairying in Minnesota. Fifteen years ago grain growing in Southern Minnesota was very nearly "played out," and farmers were at their wit's end to find out how to make ends meet. A very large proportion of the farming population of that state is Scandinavian. Poor, but industrious, they were the very class of people to work along dairy lines and the spread of the factory system dates from the visit of an intelligent Dane to his native country only ten years ago. There the co-operative system had become an established success, and among the same class of people the first co-operative factory in Minnesota was promptly started with 350 cows, \$445 cash capital and \$1,200 in notes, part of them worthless. The borrowed money was paid off by instalments out of their monthly milk bills. After that a dividend of 8 per cent. was paid the first year, 25 per cent. the second and 50 per cent. the third.

That pioneer factory is still the largest in the state, with a brood of 480 more of the same sort out of 675 factories in all. The statements made last year by Professor Haecker were only approximate, but still surprisingly accurate, as is shown by official figures collected by a duly authorized official of the state dairy department. The great strength of the dairy factory system lies in the south central counties. Freeborn, the home of the parent factory, has now 29. Other 10 counties average close on 20 each. Twelve of the northern counties have still no factories.

There are thousands of lakes scattered over this state, providing abundance of water and hay, and the success of the movement within the last seven years is likely to inspire confidence enough to ensure the ready adoption of the system among a population largely composed of the same class as its present patrons. The milk supply of the two great cities of St. Paul and Minneapolis takes up the bulk of the near hand product and it is surprising to find that after that is allowed for the highest average number of cows per farmer in any county in only 10. But in these old counties about two-thirds of the whole number of farmers are creamery patrons. That in combination with market gardening is the business of 73 per cent. of the farmers of Freeborn County. It is to the operation of the old idea, "many littles make a mickle," that the dairy system of Southern Minnesota owes its strength. One creamery has 400 patrons on its books.

There are now over 400,000 cows tributary to the factories and about as many more used for other purposes. Iowa and Wisconsin have more creameries than Minnesota, but nowhere is the co-operative system so strong as in Minnesota, and to co-operation on the Danish system is the rapid spread and assured success of its factory system justly attributed. One great secret of the prosperity thus attained is the high quality of the product. Nearly all of it goes to New York at a cost of 1c. per pound for transportation and brings the best price on the market. The quantity sent makes it worth while for the railroad companies to give the best possible refrigerator service and the operating expenses for the largest factories have actually gone as low as \$1.25 per 100 lbs. This, combined with nearness to the factory, and the buying, selling and transportation, all done on the co-operative system, secures for the patrons about 65 cents per 100 lbs.



LISTER'S ALEXANDRA " CREAM SEPARATORS

Are Simple, Solid and Durable. They are easy to turn and clean, and perfect skimmers.

LISTER'S "MELOTTE" CREAM SEPARATORS

Are the largest hand Separators made, and are as easy to turn as the small machines offered by other makers. The "Melotte" is the best disc Separator on the market. Separates the largest quantity in the quickest time, with least labor. Is durable, safe, and for clean skimming it "hews to the line."

Anyone wanting a **GASOLINE ENGINE** should correspond with us as we are handling a well tried engine, and have competent men to instal them.

R. A. LISTER & CO., LTD., Manufacturing Engineers, and Dealers in all Kinds of
DAIRY MACHINERY, SUPPLIES AND PRODUCTS.
BRANCH HOUSE.-232 King Street, WINNIPEG.

CONVINCE YOURSELF.

Does it ever occur to you that a practical demonstration of merit is worth more than the "tale of woe" which comes from a salesman with "an axe to grind." It is remarkable how wonderfully interested in the welfare of the creameryman (?) some wild eyed competitors of the Tubular have become. Why are they so energetic in their efforts to prevent creamerymen from giving the Tubular a trial? Because they are trembling in their boots. Do they fear that the creameryman will be the loser? Oh, no! Because it is the last card they have to play and they know that when the Tubular is given a fair trial it gives satisfaction and proves itself in every way superior to their hack-number machine. Some of these fellows have been weeping "crocodile tears," over Mr. J. A. Chillqvist, of Nettle Creek, Illinois, but the following letter from this gentleman shows that it has paid him to use his own judgment rather than listen to false friends.

Nettle Creek, Illinois, Aug. 4th, 1899.

THE SHARPLES Co., Chicago, Illinois.

GENTLEMEN,—Your letter of inquiry of a recent date was duly received, and should have been answered sooner, but from the fact that I wished to see fully what the Tubular would do. I have now fully decided, after carefully testing the machine, and am prepared to say that it meets fully your recommendation, and even more, as it requires very little power to operate same, and the cream is equal, and I believe superior to any separator that I have ever used. I have used separators for the last fifteen years, including nearly all makes. Danish Weston was the first, then De Laval and Sharples, also Alpha, all of which I considered good, but now I say from experience that I regard the Tubular Separator as the leading machine. I was warned against using or buying this, as it was an experiment. It has proved to me the right kind of an experiment. What can we expect unless we look to advancement, I am skimming 2500 lbs. per hour, and this not to exceed .03 to .05, and have always found that my own judgment has served me better than the talk of competitors, agents of separators, or anything else. There are several Tubulars running near me, and all are more than pleased with results from their machines.

Yours truly,

J. A. CHILLQVIST



THE SHARPLES TUBULAR SEPARATOR

Represents the latest great advance in cream separator construction. More revolutions, less speed, more centrifugal force, less power, more perfect cream, less fat in skim milk, more durability and less complication.

The howl alone revolves.
It is a hollow howl,
It spins on air.

PLACED ON TRIAL AND RESULTS GUARANTEED.

THE SHARPLES CO.,
Canal and Washington Streets,
CHICAGO III.

{ ..Send for
Catalogue
No. 73. }

P. M. SHARPLES,
West Chester,
Pa., U.S.A.

for their milk, while the proprietary factories pay a few cents less. One county made a shade over \$30 per cow for the season, and the whole returns go to show that with fuller experience more care is taken in handling the milk and in feeding the cows. Professor Haecker believes that proper management and the addition of a few dollars a year in extra feed will add greatly to the profit of the patron. His estimate of over \$20 extra return to the patron for \$5 extra spent on feed is rather too sanguine, we fear, but even so, there can be no doubt of the economy of liberal feeding of good cows.

The average for the whole state showed 13.6c. per pound to the patron, equal to 62c. per 100 for the milk, or over \$21 for each of the 400,000 cows contributing.

To sum up, there are possibilities for this country of coming pretty near the same results, and we have not far from home to go looking for examples. Some day we shall have to take a leaf out of their book. Wheat is king now, but a good cow is a mark of the highest civilization.

Skimmings.

Rinse out all vessels that have had milk in them with lukewarm water first, i.e., water 70 to 80 degrees F.

The value of oats in connection with skim milk and choice hay as a dairy calf food should not be underestimated.

An old Scotchwoman who has celebrated her golden wedding was awarded a first prize for buttermaking the other day.

Vigorous growth, exercise and development are what we must get if we are to have a cow capable of large performance.

Developing the milk giving habit, which comes with the office of maternity, is an important feature in the fitting and training of a good cow.

The new machine for making butter direct from milk, the Radiator Butter Maker, has been introduced into Canada, at the Quebec Dairy School.

One cent's worth of flax seed meal is worth as much to the calf in combination with sweet skim milk and good grass as one pound of butter fat in the whole milk.

The following is a list of the various chemical compounds used in "preserving" milk and butter:—Borax, boracic acid, sodium bicarbonate, potassium nitrate, hydrofluoric acid, sodium fluoride, sodium fluor-silicate, salicylic acid, benzoic acid, formalin, preservaline, sodium sulphite, freezene, preservatas.

There is an individuality which attaches to butter making which does not attach to most farm products. The reputation of the maker of butter and cheese goes with, and, in a certain sense, is a part of, the product. This certainly adds an interest to this branch of agriculture. Let the article be first class and put on the market in such a manner that it will show for all it is worth. Too often a butter maker does herself an injustice in this regard.

Oxford County, the greatest dairy county in Ontario, is raising the largest crop of calves this year that it has for many a year. In fact, one gentleman said it was the biggest crop raised in the county. Four years ago one hundred carloads of cows were purchased at Ingersoll alone, and so many of the young stock have been sold to the Americans and others that this year everybody is raising all the calves they can to fill up depleted herds.

Not one farmer in one hundred who keeps cows has accurate knowledge of their value individually. Not one in the same number can certainly say which is his best cow, which his second best, and so on down, even in a herd of half a dozen. Where is he who knows whether or not his herd is profitable, much less the individuals of the herd? These seem strong sayings, but this is no time nor subject for platitudes.

People have strange ideas about the strainer, said a buttermaker. There used to be any amount of milk brought to me that had never seen a strainer. When I got them out of that idea they went to the other extreme, and now they depend upon the strainer for everything. I sent a can of badly tainted milk back by the driver the other day, and an hour or two later the patron drove up in high temper. He shook his fist at me and said he knew that the milk was perfectly clean, for he himself had strained it, and had gotten a whole handful of dirt out of it, and I wasn't able to convince him that that was exactly what was the matter with it.

North Dakota is not just yet a butter-producing state and must buy a good lot from outside. The trouble over there is to keep out the various imitations, so cleverly gotten up by the more progressive states further east and south. The Dairy Commissioner is just now sending out notices to all dealers and producers of such products that he means to give them a warm reception if they try any tricks upon him. His notice reads as follows:—

"Your attention is respectfully invited to the accompanying law recently enacted, governing the sale of oleomargarine and butterine, and also to what has been commonly known as 'boiled or process butter'; also to those sections relating to the procuring of licenses by owners of milk dairies and dealers in milk, living in cities of over one thousand inhabitants, and that every creamery and cheese factory shall procure a stencil or brand bearing a suitable device, or words which shall clearly designate the quality of the product manufactured, as well as the number and location of the factory; also that said factory shall, on the 1st day of November each year, and make a full and accurate return to this office, of the amount of business done during the year."

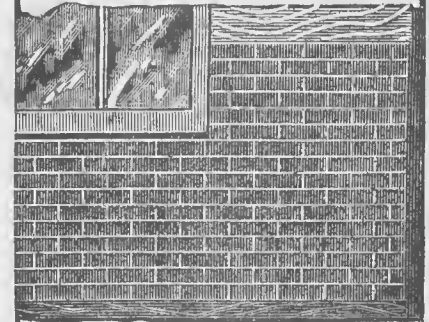
The Farmers' elevator now going up at Elgin will be of 40,000 bushels capacity.

All farmers know how easily a bull is excited by anything red in color. A French manufacturer of photographs thinks he can explain it. He lighted his factory through windows of red glass so as to prevent outsiders from seeing what was going on inside. After that he found his workpeople were continually quarrelling about trifles, and when quite puzzled as to the reason a friend suggested the use of green instead of red glass. Somehow the bad feeling toned down and disappeared.

Iowa is the greatest hog feeding state in the Union. Many farmers feed from 50 to 200 every year. Of course corn is the staple food. On one point they are about all agreed. Every man of any account lays out his feed on a closely boarded floor, which is raised some feet from the ground. If to this is added a raised sleeping place the greater comfort, combined with the smallest cost of feeding is provided, and as a result of the combination the pigs are always healthier than by any other method of handling.

Our Sheet Steel Pressed Brick

Can't be equalled as a durable, economical, practical covering for buildings



It gives Fire and Lightning proof protection—keeps out winter's cold and summer's heat—is uniformly handsome in appearance—can be most easily applied and costs very little.

You'll find it most desirable for use in either old or new buildings.

If you're interested,
write us about it.

Metallic Roofing Co. Limited

TORONTO

THOMAS BLACK, SELLING AGENT, WINNIPEG.



The Original Non-Poisonous Fluid Dip

Still the Favorite Dip, as proved by the testimony of our Minister of Agriculture and other large Breeders.

FOR SHEEP.

Kills Ticks, Maggots; Cures Scabs, Heals Old Sores, Wounds, etc., and greatly increases and improves growth of Wool.

CATTLE, HORSES, PIGS, Etc.

Cleanses the skin from all insects, and makes the coat beautifully soft and glossy.

Prevents the attack of Warble Fly.

Heals Saddle Galls, Sore Shoulders, Ulcers, etc. Keeps Animals Free from Infection.

NO DANGER, SAFE, CHEAP AND EFFECTIVE.

BEWARE OF IMITATIONS.

Sold in large tins at 75 Cents. Sufficient in each to make from 25 to 40 gallons of wash, according to strength required. Special terms to Breeders, Ranchmen, and others requiring large quantities.

SOLD BY ALL DRUGGISTS.
SEND FOR PAMPHLET.

ROBERT WIGHTMAN, Druggist, Owen Sound.

Sole Agent for the Dominion.

1874

The King of All Veterinary Remedies is Admittedly

GOMBAULT'S Caustic Balsam

IT SUPERSEDES ALL CAUTERY OR FIRING

Impossible to Produce Any Scar or Blemish

It is the Safest and Best Blister

IT REMOVES ALL BUNCHES AND BLEMISHES FROM HORSES AND CATTLE

Before turning your horses out for the winter, horsemen should apply it to remove Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Windpuffs, all Skin Diseases or Parasites, Thrush, Diphtheria, Pink Eye, all lameness from Spavin, Ringbone and other Bony Tumors. Also, for all obstructions in circulation, and imparts new life and vigor. It is a peerless remedy for all Throat and Bronchial Troubles. NOT ONLY SEE WHAT OTHERS SAY OF IT, BUT SATISFY YOURSELF BY TRYING IT.

TESTIMONIALS.

RHEUMATISM AND HORSES.

CORNHILL, TEXAS.

Please send me six bottles Gombault's Caustic Balsam by express. Your Balsam is the best liniment I have ever used, both for horses and myself. I have used it on myself for rheumatism with good success. I doctored 4 months and spent \$120 for doctor and medicine with no results, but since using your Balsam I can work around on the farm. Would like the agency for this country.

OTTO BRYER.

SATISFACTORY RESULTS.

WIER, GA.

I have used Gombault's Caustic Balsam for spavin, bone and blood, and wind galls, and laminitis, with entire satisfaction as to results: have not failed to make a perfect cure. I have recommended it to all my neighbors. I have taken some warts off my neighbor's horses. It is all you recommended it, and more.

W. F. SUMMEROUR.

"IT NEVER FAILED TO CURE."

WALCOTT, IND.

I see you are still handling the Gombault Caustic Balsam. I wish to say right now and here, that it is *far the best* liniment I ever used, and I have in years past used a good deal. I would rather have *one bottle* of it than a *barrel* of any other kind I ever used. It never failed to cure for me.

CHAS. E. ROSS.

CURES IF PROPERLY USED.

HOUSEVILLE, N.Y.

Enclosed please find \$1.50 for a bottle of Gombault's Caustic Balsam. Send by express to Glendale, N.Y. It is an exceedingly good medicine. I cured a very bad spavin with it. If it does not take off any bunch from a horse it is because it is not used properly.

GEO. GRAINGER.

DOES MORE THAN CLAIMED.

WALCOTT, IND.

The bottle of Gombault's Caustic Balsam just received, for which accept thanks. Yes, you have my consent to publish my letter to you in regard to the merits of the Balsam. It is *all* and more than you claim for it. I have *no* ax to grind in speaking *so highly of it*. I have used it *many* times and know whereof I speak. It is a *grand* medicine.

CHAS. E. ROSS.

BEATS ALL LINIMENT.

ALBERT, PA.

Please send me six bottles Gombault's Caustic Balsam. Ship to Fairview, Pa. Will send money on receipt of same. Parties whom I have sold Caustic Balsam to say that it beats all liniments they ever used.

GEO. SMITH.

DOES ITS WORK EVERY TIME.

WILMINGTON, DEL.

I found out the virtue of the Balsam and have used two bottles. I think it one of the finest remedies one can keep around a stable. It is always ready for use, and I believe if properly applied and rubbed in, will do its work every time. I have used different kinds of liniments, but this does its work quicker than any thing I have ever used, and after all leaves no scar, and the hair grows in same as ever. You can use my name whenever you see fit.

H. C. PARRISH.

GOOD FOR ENLARGED TENDONS.

ST. JOHNS, N.B.

The bottle of Gombault's Caustic Balsam you so kindly sent me in November, 1896, I have used on my horse for enlarged tendon, and found it to work to my entire satisfaction, and would recommend it to all horsemen instead of using the firing irons, as it has even a better result.

R. O'SHAUGHNESSY.

HANDLED 15 YEARS WITH SATISFACTION.

CLARINGTON, OHIO.

I have handled Gombault's Caustic Balsam for the past 15 years, and, of course, in that time have sold hundreds of dollars worth, with pleasant satisfaction to myself and great pleasure to my patrons. It is a delight quite seldom experienced by present time druggists, to have a remedy that can be honestly recommended with no fear of having more in future sales than is gained by the profit in push sale talk. With little or no advertising, Gombault's Balsam has had an ever-increasing sale, because of neighborhood introduction and my present effort of pushing a good thing along.

WILL. S. RICHARDSON.

ALWAYS USED WITH SUCCESS.

ALTONA, IA.

We have used Gombault's Caustic Balsam for years and in all cases where severe blister was necessary, with success. We have removed curbs, bunches caused by kicks, and strained tendons by repeated applications of your remedy, and have never had a failure, when used according to directions.

COMBS & CRAWFORD.

PROVED TO BE A SUCCESS.

GREENVILLE, O.

I have used a great deal of your Balsam this summer—11 bottles—and it has proved to be a success in everything I have tried to cure. I cured one horse of fistula and poll-evil. The horse was a solid scab all over, and I cured him sound and well. He is four years old and is handsome now; did not leave a scar.

C. A. WILLIAMS.

NEVER BE WITHOUT IT.

WEST END, VA.

I am very much pleased with Gombault's Caustic Balsam, and never expect to be without it again. It is all you claim for it.

ROBERT NOURSE.

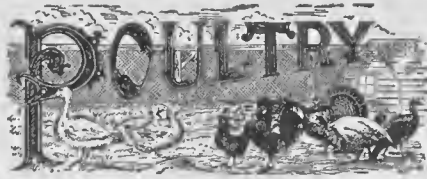
The Lawrence - Williams Co.,

TORONTO, ONT., and CLEVELAND, OHIO,

Sole Agents for the United States and Canada.

GOMBAULT'S CAUSTIC BALSAM

Is the Only Genuine.



Hens Must Take a Rest.

After the summer laying season the hens take a rest to moult. Many people look upon this as a nuisance, and consequently neglect their hens. The reason for this is they say, "Oh, the hens are only moulting." This is a great mistake. They should be as well fed and attended to as when they are laying, because when moulting they are growing new feathers and there is a heavy demand on the system for material out of which to make the new coat. The more the moulting hens eat of good food the quicker will they get their new coat. Such foods as meat and blood are good feeds for them along with wheat, buckwheat, cooked bran as a mash, and vegetables, will assist greatly in growing the new coat quickly. Hens which moult quickly possess greatest vitality. Those which are slow in moulting should be looked after, either they are very old or they are good layers which have become run down and are thus lacking in vitality to recover quickly. Look after these slow moulting hens, put them by themselves if possible and feed them well. A little tonic may help them to make a more rapid moult, such as a little sulphate of iron in their drinking water. Some put in a rusty nail. Feed liberally from now on and the reward will show itself in the improved condition of the hens and an early attempt at laying.

Push the Chicks.

Growing chicks cannot be persuaded to eat too much. Push them along so that they will attain full growth before cold weather sets in. The pullets of early hatchings, if well fed and in warm quarters, should be ready to lay by winter, and if the quarters are warm enough they should lay fairly well all winter.

Separate the young roosters from the pullets if it is possible and feed them extra, so that they may be full grown and well fleshed when the time comes to sell them. They should be kept hungry, yet have sufficient to eat. A good plan is to give them enough to only partially satisfy their appetite in the morning and never enough during the day, so that they will hunt around for food. The exercise will do them good. But for the evening meal they should have enough of good grain to fill their crop, so that they can go to roost comfortably. Late hatched chicks should receive the very best of care and be pushed along as rapidly as possible, as it is easier to do this now than when the weather becomes cold.

When the chickens have attained their full growth or nearly so, and the fattening period begins, they should be confined in a small yard, so that while they may have a little exercise, yet not the unlimited run they were accustomed to. If the fattening is to be done very rapidly, each bird should be confined in a small coop just large enough for them.

Don't think that because the chickens and hens have the run of the farm that they do not need grit. In a year or so they soon pick up all the available grit. They roam everywhere and are constantly on the watch for it. See that they get it.

Louise Bridge Poultry Yards

Secure another **SWEEPING VICTORY** at Winnipeg, July, '99. Winnings on Single Comb White Leghorns—1st, 2nd and 3rd Pairs, 1st and 2nd Breeding Pens; Rose Comb White Leghorns—1st, 2nd and 3rd Pairs, 1st and 2nd Breeding Pens, 1st and 2nd Chicks; also 1st on White Wyandottes, 1st on Black Wyandottes, two 1st and two 2nd on Black Spanish. A record like the above stands unequalled. A few choice birds for sale, including some of my prize-winners. Young stock for sale after Nov. 1st.

GEORGE WOOD,
Louise Bridge P.O., Winnipeg, Man.

Oak Grove Poultry Yards,

LOUISE BRIDGE P.O., WINNIPEG, MAN.

A few pair of young Pekin Ducks from imported and prize-winning stock, at \$4.00 per pair.

My Turkeys are all sold, except those required for breeding stock. Am breeding from two of as fine yards as there are in Manitoba.

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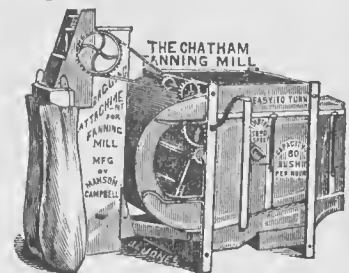
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ESTABLISHED 1882.

The only Agricultural Paper printed in Canada between Lake Superior and the Pacific Coast, and issued on the 5th and 20th of each month.

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WINNIPEG, SEPT. 5, 1899.

POLITICS AND WHEAT INSPECTION.

The Farmer has taken occasional opportunities of referring with approbation to the manner in which the Minnesota inspection system has been operated by the long tried and highly competent staff of inspectors employed for that purpose. But a new king has arisen, and about the whole gang of them have been dismissed. As all of us know too well, last year's wheat was raw, so raw, in fact, that we are told some of it, in spite of the vigilance of the inspectors, has since come out in bad shape from the public elevators. But the owners of that raw wheat made a tremendous racket over the grades they got and the Governor of Minnesota wants a renewal of his term of office. So the men who know their business are out in the cold and men of no particular training, but decidedly liberal in their methods of grading, fill their places. After the election is over, and also after the eastern buyers have found out the quality of the wheat they are asked to pay for under this pleasant manner of inspection, there is likely to be a trifling reaction. But meantime the grateful farmers will have given Governor Lind a new lease of power. We are not immaculate altogether in our Canadian political system, but we do not yet go in for political wheat inspection.

THE NEW GRAIN INSPECTION.

In another part of this issue will be found the principal details of the Inspection Act which came into force on the first day of this month. This piece of legislation was meant to correct defects in the old system which the experience of recent years had found injurious to the satisfactory handling of the grain products of the Northwest. It is now in order to discuss the bearing the changes thus made will have on the grain growing interests of the Northwest.

The first change is the raising of the grade for No. 1 hard. This change, we feel safe in saying, was not made at the request, or with the hearty approval of the delegates of the Western Grain Board who went to Ottawa to look after the bill. The Winnipeg Board of Trade and the Western Grain Board did not ask for any such change. We wish this point made very clear, because we believe this particular change will work out in a way very detrimental to the great majority of the farmers of Manitoba. For one thing it will work greatly in the interests of the Ontario millers, who only buy a small quantity of our best wheat with which to grade up their inferior native product, but who have figured on grain boards and in parliament as if they owned both us and our wheat. It is quite proper that every one interested should be considered when such matters are up for adjustment, but these men only want a very small proportion of our whole output and on the strength of their little share have controlled this bill very much for their own interests, very prejudicially for ours.

We are told in explanation of this change of grade that the concession had to be made because otherwise the eastern men would have opposed Winnipeg inspection and a compromise had to be made. Our decided opinion is that this change of grading will in the long run prove very injurious to the farmers of Southern Manitoba especially, and we think that our representatives in the House are to be blamed for yielding this point. If we are mistaken we will be grateful to any one who will set us right on the history of this compromise, because by and by a good many of our readers may want to know who on our side are to blame for the concession.

Just why we want it let us explain. Hereafter the grades will be permanent and no attempt allowed to accommodate them to the peculiar product of the season. The present outlook is that our crop this year will be of such a character that the full effect of this change of grade will not cause much unpleasantness to the bulk of our grain growers. But it is not proper to forget the racket made at such places as Morden in 1898 when millions of bushels of otherwise good wheat were found just a shade below the then standard for No. 1 hard. Southern Manitoba produces the bulk of our wheat and that of a sort from which the finest patents can be made with advantage to the miller, and when, perhaps the very next season, the farmers of that big wheat growing region are selling their best product at Northern quotations, they will be in a position to understand how they have been given away by the men who secured and the men who acquiesced in the change of grade we now see reason for condemning.

The Farmer has always maintained and will continue to maintain, till in some way further enlightened, that the only system of grading and handling of his wheat product which the western wheat producer can intelligently support is one which will enable him to sell the great bulk of

his product for an average of years at the highest possible price. It is not picking out a small quantity of the whole to be sold at a few cents more a bushel and selling the rest for what it will bring that will make any man or country rich. The game which the Ontario millers have played with such dexterity and success is to get the smallest possible quantity of a special quality of our product with which to grade up their inferior local product, so as to make out of the blend a quality of flour that they can sell either as the genuine Manitoba flour or so like it that nobody can tell the difference.

It is hardly worth while seriously to discuss the Davin addition to the Act. It is about of as much practical account as a chip in porridge. It works well enough in Minnesota, where by law everything is sold on grade, even every pound of dockage must be entered in a ledger and properly accounted for. Here nobody professes to buy on grade, though all of them will in buying refer to the grade it is assumed the load of wheat will go. Next week, when the seller, armed with the Davin amendment, drives up to the elevator and proposes to take the benefit of that amendment, the buyer will only laugh at his simplicity. "What I offer is the best I can do: if the price don't suit you take your load to Jericho—or a hotter place—and get more there." The clause looks pretty—like a soap bubble, when you want to use it it will be found about as substantial. If you think our estimate of its value is unjust, give it a trial and let us know the result.

There are other points in connection with the marketing of our grain that may with advantage be overhauled by and by and we hope to go further into them in future issues.

—A case of some interest has just been decided at Regina. Benbow bought a farm, part of the original Bell farm, but sought to set it aside on the ground of misrepresentation. He claimed that though it was sold him as summer fallowed the previous year, and therefore, as he assumed, free from weeds, it still proved very foul next year. The judge set aside the defence on the ground that the bargain was not timeously repudiated. What we say is that if either the buyer or seller assumed that one year's work, even if fairly well done, was sufficient to clear out several years deposits of noxious weed seeds, they were very short of practical knowledge on the weed question. If "one year's seeding means seven years weeding," how many years weeding will clear off the fruits of a dozen years of such seeding as that farm had?

—The government weed inspector should look after a section of school land about two and one half miles north of Whitemouth. It was burnt over some years ago and is now covered with a mass of Canadian thistles from three to four feet in height, so thick a man cannot walk through them. The seeds are even now beginning to fly, and if the farms surrounding this school section are well seeded down the owners will have themselves to thank for their indifference and neglect. The government has provided the machinery of the law for dealing with such cases and it rests with the farmers themselves to see that it is enforced. If the careless people of this community were the only ones to suffer through this neglect it would be a just punishment, but the trouble will spread much further, because the seed is liable to be blown long distances by the wind. It will be too bad if this seed is allowed to blow all over the country this fall. It should be seen to at once.

THE WESTERN STOCK GROWERS' ASSOCIATION AND THE WOLF BOUNTY.

In the last report of the Department of Agriculture for the Territories, the policy of the Government in respect to the destruction of wolves and coyotes is fully discussed. In former years a certain appropriation has been voted annually for this purpose and the amount expended through the Western Stock Growers' Association. We notice, however, that a change is made, commencing with the present season, whereby this association is called upon to defray one-half of this expense. If the association had the full support of all stock owners in the west, we should not have a word to say on this subject, but it is a deplorable fact that such is not the case.

It must be conceded that the payment of bounties on destructive animals is a measure which benefits the stockmen as a class, and although the benefit accruing therefrom is relatively greater in the case of the larger operators, than the smaller stock owners, it is in our opinion, unfair that the former should be called upon to bear the whole of the burden, which, by the way, is no inconsiderable one. The Western Stock Growers' Association has apparently voluntarily assumed this burden, if the statements made in the local papers are correct. It is to be hoped that this action on the part of this organization will gain for it the support, financially and otherwise, of every stockman in the west.

A similar association was formed in the State of Montana years ago, and it is putting it very mildly to say, that the influence wielded by the Montana Stock Association is such that the local legislature readily concedes all reasonable demands made on its behalf. The revenue of this association is raised by a state tax upon all cattle and horses and if our Territorial stockmen do not wish to invite such a proceeding on this side of the line, it seems to us, that their best policy would be to join the Western Stock Growers' Association and thus contribute voluntarily towards its many deserving and important objects.

We understand that the feeling in the west is, that the association is merely a "combine" of the large cattle operators and that its existence is to some extent a menace to the interests of the smaller men. While not wishing to criticise the past actions of the association, we must admit the probability of some foundation for this impression, but if such really exists, it only furnishes one more urgent reason why every stockowner in the country should join the association, and thus be able to protect his own interest against any hostile intentions on the part of the large cattlemen. There can be no doubt that, numerically speaking, the small stockmen could readily obtain a controlling voice in the affairs of the association and make it what it should be, an organization powerful enough to further the best interests of the cattle industry in the west. "Combination" is the watchword of the present age. It is strange how slow the farmers and the graziers are to realize, that in "union is strength," and resort to the protective measures adopted by nearly every other trade, profession or calling in the world.

—Dr. Wm. Saunders, Director of the Dominion Experimental Farms, is on his annual visit of inspection to the branch farms in the west and to see the country. He will spend considerable time in British Columbia.

STACK THRESHING.

Last year was an exceptionally difficult one in which to handle grain in the field. Every practical man knows that stacking for a month does much to brighten and improve the sample by "sweating" the excess moisture out of the berry and preparing it for permanent storage. We find exactly the same principle guiding us in the storage of our potato crop. To make them safe for winter storage they must be left to dry in the field after being dug, so avoiding the risk of heating. The men who were fortunate enough to get threshed off the stook had the best of it last fall, but for others who grumbled the work of stacking and let their grain stand for a thresher that never came, there was nothing but vexation and loss. The same course is open to the same risk every year. What becomes of the wheat after it has gone into the dealer's hands is no concern of the farmer after its price is in his pocket. But his own risk in keeping his stooks in the field when they might have been stacked was last year a heavy one and cost some men very dear. This year's probabilities are for finer weather till the bulk of our crop has been saved.

Still it is plain that only a part of our whole crop can be threshed off the stook within reasonable time and the cost of stacking the rest would be more than offset by the sense of safety and the improvement of the quality due to sweating in the stack. The storage of grain in bulky lots without opportunity to dry, which repeated movements in transit gave their export wheat, is, we believe, one of the causes of the lower grading of their crop by the inspectors, of which the farmers south of us so frequently complain. They thresh earlier than we do, and, if stored in bulk, that unsweated wheat is liable to get musty before frost comes on and before they have had time to deliver it at the market. Such grain lacks brightness and quality when sold and, if used at home as seed, has been robbed through bad storage of part of its vitality, an inferior product being the result. The man who wants to try for the big prizes at Winnipeg and Paris next year must pick his choicest sample in the field, stack it separately and sweat it a month before threshing. Nothing less will go to the top notch.

The revised freight rate of the C.P.R., which came into effect this month, fixes the rate for grain and grain products from Winnipeg to Fort William at 14c. per 100 lbs. Brandon rate is 16c. This reduction is in terms of the agreement made when the Crow's Nest Pass road was arranged for. The Northern Pacific will operate on the same scale. For months back the C.P.R. has been turning our cars from its Montreal shops at the rate of 60 per week and buying powerful locomotives to run the extra traffic expected for the next few months in hauling out the present season's crop.

—The Indian Department has had rather poor success with the shipment of Ontario bulls made recently for the Indians beyond Edmonton. Their agents out there took charge of them when delivered off the train, but by the time they got half way to their destination three out of the four were dead. A stall fed eastern bull is not husky enough for pioneer life. Those bulls had, perhaps, never traveled five miles in a day all their lives. They were not a dead loss, however. The nearest tribe had a jolly feast off the three fat carcasses so providentially put in their way.

—Canadian beef is now doing a good trade in Aberdeen, the great centre of "prime Scots" production.

—The much dreaded bubonic plague is reported to have reached south-eastern Russia, and also at Oporto, Portugal.

—The Edmonton Post is calling for a larger force of Mounted Police to cover the ever widening area of territory under their care.

—Buenos Ayres having still plenty of cash to spare in spite of its big importations of fancy Shorthorns, has now turned its attention to draft horses and taken out three of the best young Clydesdale stallions in Scotland.

—Peter Gideon, whose persistent efforts in acclimating apples in Southern Minnesota have had such beneficial results, is still alive and at the age of 84 is a very poor man. Why does not that now wealthy state pension him right away. "He hath deserved well of the republic."

—E. B. Osler, a director of the C.P.R., speaking at the opening of Toronto Exhibition, said that at the last meeting of the directorate it had been decided to devote a certain considerable sum of money per year to the improvement of stock in Manitoba.

—The latter end of the summer now drawing to a close in Britain has had a most disastrous effect on the value of store stock. Second crop clover and turnips are the mainstay of high-rented farmers and as these are both nearly failures, store cattle and sheep can hardly be sold at any price. Such as are in anything like condition are being put on the butcher market and that again is injuring the price for our ranch cattle.

—In curious contrast with the splendid growing season that has been enjoyed by the Northwest, we find that old Ontario and old England both have suffered terribly from drouth. Fall pastures in Ontario are worthless and only those who have artificial aids such as corn and rape can avoid serious loss. Australia has been under drouth for five years and a third of the sheep are lost, besides the loss of natural increase. The latest advices, however, show good rains in South Australia.

—In our veterinary column for this issue a suggestion is made that the trouble complained of is due to feeding musty oats. A case in point comes from the old country. Young horses were found suffering from digestive disorder, and it was traced to the partial use of Indian corn in which only one grain in ten was affected with fungus. Bright, clean corn was then fed and the trouble ceased. Perhaps there has been more such trouble from the use of damp and heated oats and wheat of last year's crop than most of us are aware of.

—Now is the season to find out whether you are likely to need Brome grass and clover pasture. This has been the best pasture season for years, but that will not prevent the native herbage from drying out, and for the next two months the cows will dry up in the same proportion. They must do so, all the succulent feed is gone and the dry stalks and prairie weeds that are left will barely keep them alive. The stubbles will, of course, mitigate the shortage, but some better fall feed than most of us now have must be had if we are to take the best profit out of our stock.

Market Review.

Winnipeg, Sept. 5th, 1899.

Business has been more or less quiet and will be until after harvest. Wholesale houses are busy shipping fall goods. It is expected that there will be a heavy fall trade in all lines of goods, and especially so if the present large harvest is safely garnered. There seems to be a big scarcity of iron and, even at advanced prices, some firms have found it difficult to get supplies. Unless the iron famine is relieved in some unexpected way, it is more than likely that many firms will be forced to curtail their business and among these will be some of the implement firms. Prices of many lines of hardware continue to advance. Fence staples have been advanced 20c. a keg, while wire nails are up 10 cents in price, so also is band iron. The British Columbia fruit growers are shipping this week a trial car of fruit, specially packed. As we go to press about 90 per cent. of the wheat is estimated to be cut along the main line of the C. P. R. Further north the percentage will be less. This week will likely see all cutting done.

Wheat.

The market has been for a week past on the quiver, with changes of $\frac{1}{2}$ c. to $\frac{1}{4}$ c. from day to day. To-day, Chicago September wheat is 70c. and Fort William stands about 69c. There is no reason, judging from the most reliable outside reports, why the price should go below this, in fact, it ought to turn rather the other way. But the leading markets this morning show no animation, just a shade the other way. The world's crop report shows a considerable shortage from last year's production. But speculation is extremely quiet, and buying for consumption is being done from hand to mouth. Stocks held in Britain are said to be light, but as the supply keeps going in steadily from almost every outside point, the hand to mouth policy seems to find most favor there.

Rain has done some harm in the states to the south of us, and neither in quantity nor in quality is the outturn as good as was hoped for. At home only a few cars are being bought at early points, principally in the Mennonite country. About 54c. is the quotation. Nearly all of it will go 1 hard and is a good weight. Where not cut too early the quality for the province generally will be high. Buying will not be general for a week or two yet. Lake freights will be extra high this fall, quite offsetting the reduction in rail rates.

There are reports of damage by Hessian fly from Springfield and Southern Manitoba, and at some points frost has also got in its work. From more than one point we have advices that the crop looked heavier before being cut than it does now. Nothing heard of smut so far. The damage by hail will be lower than the average of former years.

Considerable dissatisfaction is now felt at Winnipeg at the delay in settling the appointments for inspectorships under the new Act. Horne for Winnipeg seems the universal demand.

Oats

Threshing has begun at several points, but the growers expect nearly up to the famine prices that have been going for the last few months. About 35c. has been asked, but will not be paid by the dealers. Old oats are not all they ought to be, in many cases more or less musty, and there will be a demand on the next crop for feed at once. What have been offered so far are rather light. About 30c. may be the figure to start with, and a downward tendency thereafter. Good old oats are still worth 40c.

Barley.

Barley is expected to open at about 30c., but nothing is doing at present.

Flour.

Quotations will go about 10c. lower than last fortnight. Patents \$1.75, strong bakers', \$1.55, seconds, \$1.35, XXXX, \$1.05. Bran scarce, quoted at \$11. Shorts \$13.

Cattle.

Cattle are now moving freely and the large shipping firms are sending forward shipments for export as rapidly as they can. The cattle are in good condition. The price ranges from $2\frac{1}{2}$ c. to $3\frac{1}{2}$ c. for good cattle. One firm quoted as high as $3\frac{1}{2}$ c. for extra good quality. At such prices we do not see why Winnipeg citizens should be charged such high rates for meat. Choice heavy export cattle at Montreal are worth from \$4.90 to \$5.12 $\frac{1}{2}$ per cwt. The bulk go at from \$4.60 to \$4.90. On the Chicago market \$6.60 was realized for extra fancy cattle last week. Over 15,000 American cattle have been shipped from Montreal this season to Great Britain. Canadian cattle have to go the same road to the same market, why the difference in price?

Sheep.

Western sheep are coming in very slowly and the market continues to be supplied with mutton from Ontario. Weighed off the cars at Winnipeg sheep are worth $4\frac{1}{2}$ c. to 5c. Lambs are worth from \$3 to \$4 each.

Hogs.

Hogs continue to come in slowly. For choice hogs \$5 per cwt. is being paid weighed off the cars.

Butter and Cheese.

Creamery Butter.—The English market continues firm. A first shipment of the season of Australian butter may affect prices, but as it is stored butter it is not expected to affect values for high grades. Canadian creamery has sold as high as 110s. At Montreal sales were reported as high as $21\frac{1}{2}$ c. The total increase in the number of packages of butter shipped this season so far is now about 160,000 as compared with the same period last year. From 18c. to $18\frac{1}{2}$ c. a pound, according to quality, is the price paid in Manitoba, at the creameries. Vancouver reports Manitoba creamery at 23c. Creameries have no trouble in making good sales.

Dairy Butter.—From $11\frac{1}{2}$ c. to 12c. is being paid for round lots of dairy butter delivered at Winnipeg.

Cheese.—High prices continue. The demand from the British markets continues strong and in view of the short pastures in Ontario, the fall make is likely to be considerably curtailed and sellers are not at all anxious to dispose of their cheese. Shipments from Montreal show an increase of 103,000 boxes over the same period last year. Prices at Montreal are gradually moving up. Sales at various points throughout Ontario have been made at $12\frac{1}{2}$ c. and $12\frac{1}{4}$ c. Cheese in Manitoba is bringing 11c. at the factories.

Poultry and Eggs.

Poultry.—Very little moving as yet. Small supplies find their way in for the Winnipeg market, but the wholesale men are getting nothing in Manitoba. On the local market chickens are bringing 40c., poultry 65c. Ducks, 9c. geese, 8c., and turkeys, 11c. a pound, live weight.

Eggs.—The general price going is 15c. a dozen, delivered in Winnipeg. Supplies are quite large.

Potatoes.

Prices are tumbling down rapidly, as larger supplies are coming in. 30c. to 35c. per bushel, in small lots, is the going

price, with prospects of lower rates. In car lots about 25c. on the tracks.

Hides and Wool.

Hides remain unchanged on a basis of $6\frac{1}{2}$ c. for No. 1.

Prices remain unchanged for "wool"; very little coming in. 8c. for fine and 7c. for long wool, unwashed.

Fall Fairs.

Toronto, Ont.—Aug. 28-Sept. 9.
London, Ont.—Sept. 7-16.
Ottawa, Ont.—Sept. 11-23.
Medicine Hat.—Sept. 20 and 21.
Yorkton.—Sept. 21.
Rothbury and Logberg.—Sept. 26.
Saskatoon.—Sept. 26 and 27.
Meadow Lea (Woodlands).—Sept. 27.
Alameda.—Sept. 27.
Esterhazy.—Sept. 27.
Moosomin.—Sept. 27.
Calgary.—Sept. 27 and 28.
Morden.—Sept. 27-28.
Lorne (Swan Lake).—Sept. 28.
Cannington Manor.—Sept. 29.
Wetaskiwin.—Sept. 29.
Lorne, Sask.—Oct. 2 and 3.
Battleford.—Oct. 3 and 4.
New Westminster, B.C.—Oct. 3, 4, 5, 6.
Oak Lake.—Oct. 4.
Rosthern.—Oct. 4.
Russell.—Oct. 4.
Springfield.—Oct. 4.
Melita.—Oct. 4-5.
Baldur.—Oct. 5.
Elkhorn.—Oct. 5.
Carman.—Oct. 5 and 6.
Hartney.—Oct. 5-6.
Wolseley.—Oct. 10.
Gainsboro (Assa).—Oct. 11.
Belmont.—Oct. 12.
McGregor.—Oct. 12.

It would be an advantage to all parties concerned if the secretaries of Agricultural Societies would send us the dates of their show. Changes are sometimes made from the dates first appointed without proper notice being given which leads to annoyances to intending visitors and competitors.

STRAYED.

One Brown Pony Mare, with brand \diamond on left shoulder, a small spot on face, came to
GEORGE ATCHISON, Tp. 8, Rge. 4, Sec. 2.
ARCOLA, ASSA.

A FIRST-CLASS SHEPHERD AND STOCKMAN

who has had twenty years' experience in Scotland and the N. W. Territories, desires an engagement.—Address Box 10, "Nor'-West Farmer" Office, Winnipeg, Man.

BARLEY WANTED.

We are now in the market for

GOOD BREWING BARLEY

Farmers threshing early will do well to forward us samples.

EDWARD L. DREWRY,
Redwood Factories, WINNIPEG.



Along the Calgary and Edmonton Railway.

"At the risk of running perilously close to a bull it may be stated that one of the most salient features of Alberta is its many-sidedness." We have read the above or something to the same effect, somewhere and as it seems to be about as terse a statement of facts as we can hope to evolve, we make no apology for its repetition. A trip through the country between Calgary and Edmonton is all that is necessary to convince one of its "may-sidedness." Calgary is in the centre of a ranching country, where farming has not been practised to any extent and where the results seem to indicate that grain growing must be carried on only as a side issue to stock raising. These same conditions extend for some distance north of the city, but after about forty miles the character of the country gradually changes, and shortly before reaching Olds the open pasture lands give way to a country with slight scrub and timber, longer grass, more moisture, more humus and more adapted to raising crops. These changed conditions may be said to become, as a rule, gradually more marked as one goes further north.

All the way along the line a great many new settlers have taken land this season and a number of the new ones which we have met were from the United States and are the kind of men who will make first-class citizens. The extent of breaking which has been done this year has been very great.

At Olds a great deal of attention is still directed to cattle raising although the amount of grain raised is fast being increased. There is no creamery at this point, but quite a number of farmers ship their cream to Calgary. So far, we believe, Copley Bros. have been the only ones who have dabbled in raising pure bred stock.

Innisfail and Red Deer are points which each go strongly into dairying and splendid creameries exist at both points. At these places a number of the farmers study dairying as a business, and so it is no wonder that they make it a success. At both places a good deal of grain is grown and some of the farmers are getting things fixed up pretty comfortably. Messrs. Page and Raikes of Pine Creek, about 20 miles east of Innisfail, and Wilson, near the town, are each breeding Shorthorns; while H. A. Malcolm, east of the town a few miles, has some Holsteins and Yorkshire pigs, which we had the pleasure of seeing. Among his Holsteins are some very good ones; one cow, "Mabongo," having been imported from Holland by Mr. Ayer, of Montreal. Although she has lost the use of one quarter, she is claimed to have given since as high as 60 lbs. of milk per day. Mr. Malcolm has the foundation stock from which he ought to be able to raise a pretty good herd. The foundation of his Yorkshire stock was secured from Brethour, of Burford, Ont., but he was not into them so heavily as he expected to be later.

South of Red Deer, three miles, A. H. Trimble has just brought in a herd of about ten pure-bred Ayrshires the past spring. The Red Deer creamery is on his farm (being his property) and he is quite a progressive dairyman, with about

as fine looking a lot of dairy cows, grades and pure-breds, as one comes across. He owns two bulls—an Ayrshire and a Jersey. The former, especially, "Kake of the Willows," is a nice beast and his dam and grandsire were both imported from Scotland. One of his newly-bought cows, "Dolly," was a prize winner at the World's Fair, and although nine years old, was making 14 lbs. of butter per week this season off the grass alone. He has his heifers come in at two years old as he thinks he gets better dairy cows by having them calve at a young age. Of course good care and feed are required to keep them growing. He has charge also of some Shorthorns owned by G. A. Love, headed by a very fine young bull, "Lord Beaufort 3rd" brought this spring from Ontario. He purchases the butter milk from the creamery and, although he does not claim to be a pig fancier, he has some splendid Duroc Jerseys and Tamworth grades. Buttermaker Flack has a herd of about a dozen Holsteins and a pretty free use of his bull explains the presence of a large number of Holstein grades amongst the young stock here. Messrs. George & James Beattie, west of Red Deer, a short distance, have each got a few nice Shorthorns.

S. W. Paisley, about six miles south-west of Lacombe, was called upon. He brought a Shorthorn bull and cow, bred by Capt. Robson, of Iderton, from Ontario, about five years ago, and has bred himself into a few Shorthorn heifers, of which anyone might well be proud. He has gone also into Shropshire sheep, having started with some bred by W. S. Hawkshaw & Sons, Glenworth, Ont. His flock now includes about 40 head of pure bred, including some broad, square ones and some very fine lambs. So far not much trouble has been experienced with coyotes. Messrs. P. & H. Talbot, Sharpe and Laidman, all of Lacombe, have pure-bred stock.

One fact worth noting is the interest taken along this line in Brome grass. We were asked different times about it and took the trouble to look up a few who are trying it. In most cases the grower spoke very highly of it. It seems to take well in Northern Alberta and a great many farmers will no doubt, be sowing it next year.

Owing to the wet season crops, although phenomenally heavy, are about two weeks behind other years.

Red Deer Creamery.

The man who says that there is no money in dairying would find himself very much in the minority if he visited a number of points along the Calgary & Edmonton Railway. The report of the annual meeting of the Innisfail creamery, published in July 20th issue, together with other evidences, all point to the fact that the creameries in this district are doing good work indeed. A look through the one at Red Deer satisfied us that it was quite up to the mark. The creamery, which is situated about three miles south of the town, is owned by A. H. Trimble, but has been leased from him and managed by the government since May, 1897, running summer and winter ever since. S. Flack, the present maker, has had the management of it for the whole length of time and the success of the institution, as well as the scrupulously clean way in which everything is kept, reflect much credit upon him. Gathering is done from three routes and a separating station, two collections being made each week. Although all right in cool weather, twice a week is not quite often enough in the hot season to give justice to either patron or

ONTARIO LADIES' COLLEGE.

Whitby, Ont. Magnificent buildings, pleasant and healthful surroundings, and the highest educational facilities in Literature, Music, Art, Elocution, Commercial Branches, and Domestic Science, account for the present marked popularity and success of the Ontario Ladies' College. Not only does it occupy the leading place in sound learning, but in those helpful and moulding influences that go to make up a strong, refined and noble character. Send for calendar to

Rev. J. J. HARE, Ph. D., Principal.

THE WINNIPEG HEATER.

What is it?
What will it do?



It is a Steel Plate Construction to be connected to your stove, range or furnace smoke pipe, and utilize the vast amount of heat which passes out of the chimney and is wasted. It will successfully heat as much space as your stove without additional fuel.

With it you can heat your dining-room from your kitchen stove, or your parlor or sitting room from the hall stove, or any room upstairs—YES! Heat them to 70°, and do it without extra fuel.

One-Half the Fuel Saved.

"The Winnipeg Heaters which I purchased from you have given me entire satisfaction, are excellent heaters, and great fuel savers. I can safely say that I did not use over one-half the fuel that I would have done under other circumstances, and shall be pleased to recommend them to others."

DR. A. E. ST. JOHN, Winnipeg.

Retains Heat and Saves Fuel.

"Having had a Winnipeg Heater in use for a month, with cheerfulness I can bear testimony to its excellence, especially in drawing off the cold air from the floor and diffusing a genial, pleasant heat through the house—retaining the heat, saving the fuel."

FRANCIS COLEMAN,
Retired Minister, 147 Napier St., Hamilton.

Two Stoves taken Down.

"Heating my photographic gallery was a trying ordeal in very cold weather, necessitating the use of two stoves in one room. I placed a Winnipeg Heater in the gallery (24x44 feet), and connected it with the self-feeder in an adjoining room. The two stoves were taken down, and the Heater, with one fire, warmed both gallery and workroom. I take pleasure in recommending it to all enquirers."

C. A. MUERLE, 43 Dundas St., Toronto.

Warm Floor—One-Third of Fuel Saved.

"The Heater you put up in my office has proved a success in every way. It has kept the floor, from which we suffered most, warm and comfortable. It saved at least one-third of the fuel (Wood) usually consumed. I believe it is the best invention for giving the most steady heat for the least money of anything yet discovered."

JOHN FISHER, Esq.,
Local Registrar of Cobourg, Ont.

For information in Manitoba and Western Provinces apply to

R. DOUGLAS - WINNIPEG, MAN.

Manufactured in Canada only by the

Metal Shingle & Siding Co.
LIMITED,
PRESTON, ONT.

When writing advertisers, kindly mention The Nor'-West Farmer.

maker where ice is not used to keep the cream from ripening.

The report of the summer season of 1898 (May 1st to October 31st) shows 76 patrons, with 42,878 lbs. of butter made, the patrons receiving 15.84 cents per pound and the government charge of 4 cents for operating and manufacturing not being all taken. This distributed over \$8,500 in the district in six months. This year the make has largely increased, the report for June showing 12,869 lbs., as against 8,095 for June, 1898—an increase of over 52 per cent. The maximum make for one week was 3,404 lbs. About fifty separators are used among the farmers.

Besides that shipped in ordinary butter boxes a few thousand pounds have been put up in tins and a considerable quantity in prints. Supt. Marker has introduced a new box for prints, which is being used here and which holds five prints in length, five in breadth and two in depth. This makes a very nice package of 50 pounds and should deliver well, as there is little fear of prints crushing. We will be interested in hearing how these shipments turn out.

Lac du Bonnet.

A representative of The Farmer had a pleasant trip by canoe from Whitemouth down the Whitemouth River to the Winnipeg River, then down it to Lac du Bonnet. Here he found the Lac du Bonnet Mining, Developing and Manufacturing Co., of Winnipeg, making great progress in opening up the large beds of exceedingly fine clay which exist at this point. Work was begun here last March. At that time the land was two feet under water, but a gang of men soon got the land ditched, cleared four acres and set up a saw mill. As the result of the season's work so far they have a machine building 40x40 ft., two stories high, an engine house 30x40, containing two boilers and a 110 horse-power engine, a clay shed 24x80, a kiln shed 70x160, and a blacksmith's shop 16x16.

The necessary plant for manufacturing choice brick, etc., has been put in and the men are now turning out 10,000 pressed brick a day. The first kiln has been burned and another is now ready. It is the intention of the company to make paving brick and pressed brick, as well as the common building brick, sewer pipes and pottery of all kinds, as they have clay of the finest quality suitable for this work and skilled workmen to do it. A large gang of men are at work and every preparation is being made to have a large supply of brick on hand for next season's business. The Winnipeg and Fort Alexander Railway, running from Molson on the main line of the C. P. R., is to be built in time to take out the product next spring. Quite a little village has sprung up around the works, there being now 14 houses and more building.

Wet Weather in Alberta.

This has been one of the unusual seasons in Alberta. That district, generally dry in the summer, has received more rain this season than in any other for nearly twenty years. A certain amount of damage and a good deal of inconvenience has been thus caused. More particularly has this been true at Edmonton, where the river rose about 40 feet above its normal height and, in fact, away above all previous records. This flooded condition has continued so steadily as to prevent for two or three weeks the running of the ferries, which are the means of communication between Edmonton and the large territory north of the Saskatche-

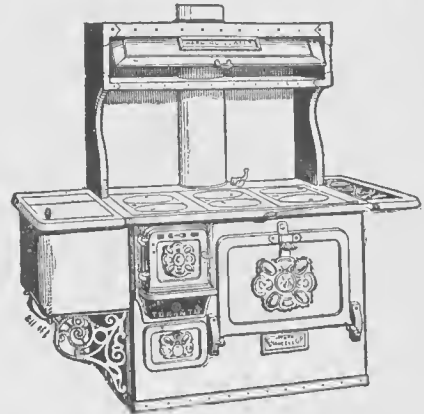
wan and the railroad, which at present has its terminus at Strathcona, on the south side. In a few cases farmers or others were on the wrong side of the river with their teams when the flood came and were held there. The grain crops in Northern Alberta this year are phenomenally heavy, and if harvested in proper shape, will likely run anywhere from 25 to 50 bushels to the acre for wheat and from 50 to 100 for oats. The weather, however, up to the time of writing (Sept 2) has been so continuously wet that very little has been cut, and haying also has been interfered with. The grain has ripened slowly, but has filled beautifully. No damage from frost has as yet been reported. Should the weather settle the Alberta farmers will make a great stride forward this year, but unless the next week or two sees a clearing the full benefit of the heavy crops cannot be realized.

Among the cattle in quarantine at Quebec are about thirty head of Scotch Short-horns belonging to W. D. Flatt, one of the most enterprising and enthusiastic breeders in Ontario, whose herd at Hamilton has sprung into prominence on account of the judgment and liberality displayed in the selection of superior foundation stock. About fifty head of Short-horns are also quarantined at Quebec for Mr. Cargill another Ontario breeder.—Breeder's Gazette.

Origin of the Shoe Grain Drill.

Many farmers in the Northwest, including those of Manitoba and other provinces, have for some years been watching the introduction of shoe drills with interest, and they are now an implement well known to all. Shoes or runners for grain drills were originated in Dowagiac, Mich., U.S.A., in 1863, and have been manufactured at that place since 1881 by the Dowagiac Manufacturing Co., who have introduced them in all sections of the world where grain is raised. Although this concern builds a full line of grain seeding machinery, the shoe drill is their specialty, and so great has been their success that they are now the largest exclusive manufacturers of seeding machinery in the world. The popularity of the Dowagiac drill has caused other manufacturers in the line to closely imitate it, and some have gone so far as to use the word "Dowagiac" in connection with their implement. It is commonly admitted that imitation is the highest flattery, but it is doubtful if the adoption of the name of an article itself can be construed in such a light. The Dowagiac Manufacturing Co. have a branch house at Fargo, N.D., distributing house in Minneapolis, Minn., and Madison, Wis., for the spring wheat section of the Northwest. On another page will be found their advertisement, an application for their catalogue by mail will receive prompt attention.

Why Don't You Try an OXFORD CHANCELLOR For Your Kitchen?



It is the most reliable and also the lowest priced Steel Plate Range made, and will give you a lifetime of satisfaction.

It has a Fire Box 28-in. long; an oven 20x22x14 in.; a top cooking surface 39x30 in. Consider these advantages in size, and above all remember that it is strictly guaranteed, so that any disappointment is impossible.

The Chancellor burns the coarsest wood, or may be fitted with coal linings and is quick working and easily regulated.

Make a point of seeing them at our nearest agents, the price is very low.

If your local dealer cannot supply you, write to us.

THE GURNEY FOUNDRY CO., Limited, WINNIPEG,
155 & 157 LOMBARD STREET.

"PASTEUR" BLACKLEG VACCINE.

The original, genuine and successful vaccine remedy for Blackleg. In powder form—"Single" Vaccine, \$1.50 per packet (10 to 12 head); "Double" Vaccine, \$2 per double packet (10 to 20 head). Also

"BLACKLEGNE"—Single Application Vaccine—ready for immediate use, 10 head, \$1.50; 20 head, \$2.50; 50 head, \$6.

Beware of substitutions for and imitations of our well-known remedies.

PASTEUR VACCINE CO.,
56 Fifth Avenue, Chicago.

W. J. MITCHELL & CO.,
Winnipeg, Man.



While our columns are always open for the discussion of any relevant subject, we do not necessarily indorse the opinions of all contributors. Correspondents will kindly write on one side of the sheet only and in every case give the name—not necessarily for publication, but as a guarantee of good faith. All correspondence will be subject to revision.

Stubble Burner.

Subscriber, Melita, Man.: "Please tell me if there is such a thing as a stubble burner, if so, where are they made and what will one cost laid down at Melita?"

Answer.—E. Canniff, Winnipeg, manufactures a stubble burner. He had it on exhibition at Winnipeg, Brandon and Portage la Prairie shows. Holmes & Ashdown, of Portage la Prairie, showed a gasoline stubble burner that attracted a good deal of attention. For prices write to these parties.

Alder-Leaved Buckthorn.

W. P., Riversdale, Assa.: "Please name the plant to which the enclosed bunch of berries belong. Are they fit to eat?"

Answered by Rev. W. A. Burman, St. John's College, Winnipeg.—This plant is the Alder-leaved Buckthorn, *Rhamnus alnifolia*. The berries, of a deep purple, are tempting to look at, but are not fit for food. I am not certain of the exact properties of this particular species, but some members of the order to which it belongs possess a cathartic principle. None of those found in temperate climates are fit for food. The plant in question—a shrub about two to three feet high, is found principally in wet woods or swamps. Your correspondent will do well to warn children against eating the fruit.

Putting Large Teats on a Cow.

J. S., Regina, Assa.: "I have seen nothing in The Nor'-West Farmer about how to put large teats on a cow or how to make small teats larger. I think I have done well along the line of enlarging teats. But as there are others who have been longer in the milking business than I have, I would like to know how they set about to make small teats large. I mean to send my method, so that it will appear in the January (1900) issue. So far I have only succeeded with heifers. Come, now, tell your secrets."

Curing Pork in Warm Weather.

Subscriber, Saskatoon, Sask. "What is the best way to cure pork in warm weather without cold storage?"

Answer.—There is no reliable way of curing pork in warm weather and at the ordinary temperatures. In the first place it is impossible to cool large hams through to the bone, without which it is impossible to keep them, as they begin to spoil at the bone where the animal heat has not got out. In the large packing establishments the carcasses are thoroughly chilled in a large refrigerator room before being cut up, they are then cured in cold cellars. Brine, or salt will not penetrate meat sufficiently, if thick, in warm weather. The outside may be cured, but the centre will not be cured and will soon be tainted. Wait until the weather is cool enough to chill the meat through before you try curing pork.

To be successful in curing nice hams,

shoulders and rolls of side meat, requires experience, care and judgment, which is hard to teach by correspondence. If subscriber will read the articles of curing pork in back numbers of The Farmer he will gain considerable light on this subject.

Should Have Had Second Place at Brandon.

J. Herriot, Souris, Man.: "I wish to call your attention to the results of the milk test at Brandon. According to the figures published in your paper, Aug. 5th issue, page 566, I should have been placed first if I had been credited with as many points for days in milk as I should have been. The Jersey was credited with 4 points for 63 days in milk and should only have had 3.3 points. My cow was 78 days in milk and was credited with only 4 points. She was entitled to 4.8 points and had she been given these and the Jersey cow only 3.3, all she is entitled to, my cow would have stood second in the test. I wish you would correct this mistake."

Note.—Mr. Herriot is right. If the exact figures had been used his cow would have been credited with second place.

Hessian Fly in Manitoba.

The much dreaded Hessian Fly, which has done such incalculable damage in Ontario and the United States, has made its appearance in Southern Manitoba, where considerable damage has been done this year at one or two points. Specimens have been identified by Dr. Fletcher, of Ottawa. Farmers who had much wheat crinkling over at the first or second joints should examine these joints for the "flax seed" condition of this pest. For the life history of the Hessian Fly and the treatment that should be followed this fall, see page 173 of the Experimental Farm report for 1898.

Jas. Yule, manager of the Prairie Home Stock Farm, has brought from Ontario recently fourteen head of young Ayrshire cattle from the herds of W. C. Edwards, Rockland, and Jos. Yuill, Carleton Place.

A. B. Potter, Montgomery, Assa., reports the following sales of Yorkshire pigs: "One sow to A. Gowanlock, Glenboro, Man.; a boar each to T. G. Wag-horn, Rapid City, Man., F. H. Lowe, Ninette, Man., and Wm. Evans, Broadview, Assa. My pigs came home from the shows all right and are doing well."

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THOROLD CEMENT

SPEAKS
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BARN OF WM. PATTON, SOUTH CAYUGA, ONT.

Size of basement walls, 36x60x9 ft. Built with Thorold Cement,



CONCRETE RESIDENCE OF JOSEPH HARRIS, NEAR KERWOOD, ONT.

Built with Thorold Cement in 1899.

FOR FREE PAMPHLET WITH FULL PARTICULARS, ADDRESS—

ESTATE OF JOHN BATTLE,

Thorold, Ont.

Live Stock Impounded, Lost, or Estray.

Following is a list of animals impounded, lost or estray, since our August 21st issue:—

Impounded.

Boissevain, Man.—One bay mare, slit on nigh ear, spur brand on nigh cheek; one dark grey mare, branded O on nigh hip and white stripe on face. James Burgess, 22, 2, 20.

Katepwe, Assa.—One bay gelding, one or two years old, indistinct heart shaped brand on left hip, little white on face; one bay gelding, about 900 lbs., same brand; one bay gelding, stripe down face. A. F. MacLellan, SW qr. 24, 19, 12, W2.

Maryfield, Assa.—One mare, aged, brown, off hind foot white, white marks on back, grey about eyes, about 1200 lbs. W. N. F. Kay, 32, 10, 30, W1.

Moose Jaw, Assa.—One bay horse, branded W above W on left shoulder, W on right shoulder; one bay mare, branded S above O on left shoulder. James Campbell, SE qr. 22, 17, 28, W2.

North Portal, Assa.—One grey mare, about 12 or 14, red speckles, small colt at side, broncho cross, quarter circle, W on left hip, irregular brand on left shoulder; one small iron grey stallion, broken to lead, three indistinct brands on left shoulder; one 6 or 7 weeks old colt, turning dark, small, lame from wire cut.—W. E. Upper, SE qr. 24, 1, 5, W2.

Regina, Assa.—One bay mare, 2 years, star on forehead, left hind foot white; one grey horse, 2 years, irregular brand on left shoulder; one brown horse, 2 years, star on forehead, white hind feet; one brown mare, star on forehead, right hind foot white. W. H. McIlree, SE qr. 6, 18, 19, W2.

Lost.

Arden, Man.—One short bright bay pony mare, 9 years old, white on face and one hind foot, mane clipped, tail slightly so, with small rope around her neck. J. F. Choate.

Battleford, Sask.—One dark bay gelding, about 15½ hands high; small star on forehead, a little white on one hind foot, branded with double crank brand on left shoulder and left hip, had halter on. C. M. Daunais.

Battleford, Sask.—One Clyde bay mare, 3 years old, white on right hind foot, small star, branded T on left shoulder, weight 1,300. \$5 reward. Alex. W. Thedrof.

Douglas, Man.—One brown mare, white spot on forehead, black points, weight, 10 or 12 cwt., branded U on left shoulder, leather halter with rope shank. W. J. Twiss, 26, 10, 17.

Edna, Alta.—One sorrel mare with foal, branded F inside diamond and P on left shoulder; also one yearling bay filly, unbranded. B. T. Myrum.

Fletwode, Assa.—One bay broncho mare, stripe down face, long black mane and tail, Roman nose, weight about 11 cwt., left ear punched near tip and had halter on when last seen. \$25 reward. Chas. Girard, 24, 11, 4W2.

High Bluff, Man.—Eight heifer calves, six red and two grey in color, branded O on left hip. James Carson, 1, 12, 5.

Lamerton, Alta.—One roan mare, branded 8 on left shoulder; one sorrel, two years old; one bay gelding, 3 years old; two bays, 4 years old, geldings; one bay gelding, 3 years old; one sorrel, 4 years old; one brown, 4 years old; one old mare; all branded united EP on right shoulder; three yearlings, unbranded, and three suckers. \$25 reward. Parlbys Bros., Buffalo Lake.

Mullock, Assa.—Nine head of cattle, branded 5FV on right rib; also bay pony mare with tether rope, no brand. Reward. T. W. Goddard.

Mulock, Assa.—One colt, all black but one white foot, 2 years old, scratches across breast from barb wire. Reward. C. H. Lakey, 22, 28, 2.

Minnedosa, Man.—Two yearling heifers, one red and white, one light roan. G. H. Kitson, 4, 16, 17.

Necpawa, Man.—One sorrel mare, about 7 years old, had white strip down face. W. West.

Neepawa, Man.—One red cow, 7 or 8 years old; information leading to its recovery may be left at Hamilton's butcher shop, or H. Irwin.

Redpath, Assa.—One bay gelding, 3 years old, right hind foot white, star on forehead, about 15½ hands. Reward of \$5. Albert G. Shopland.

Regina, Assa.—One bay horse, heavy black mane and tail, branded H on left shoulder, weight about 1,000 to 1,100 lbs., aged 3 or 4, small star under forelock, mark of blister on off shoulder. John W. Harrison.

Redpath, Assa.—One Indian pony mare, bay, B on right hip, stripe down face, three white feet, 11 years, yearling filly at side, with star on forehead; black three year old pony gelding, star on forehead; light brown three year old pony gelding, white hind feet, one front foot, white stripe down face. \$5 reward. E. W. Putland.

Selkirk, Man.—One grey horse, 1,200 lbs.; one dark grey mare. \$5 reward. Rosen & Duggan.

Sintaluta, Assa.—One dark bay horse, black mane, tail and legs, white star on forehead, small white spot on back, leather halter on. G. K. Grass.

Springbank, Alta.—Three ponies, pinto roan, strawberry roan and a dark brown, branded on left shoulder. Reward. M. Gardner.

Swan River, Man.—One bay mare, with two white spots on face and one white hind foot; one bay mare, with two white spots on face and one hind foot half white; also bay colt, one year old, with white strip all down face and two white hind feet. Reward. Thos. Scarrat, 18, 35, 28.

Weyburn, Assa.—One white heifer with black skin on nose, about 3 years old, due to calve; also one white cow, with red head and neck, giving milk, 4 years old. \$5 reward. Jas. A. M. Johnston, 6, 10, 14, 2W.

Yorkton, Assa.—One bay mare, one hind foot white, weight 1,100 lbs., age 10 years. Reward. J. S. Crearer.

Yorkton, Assa.—One solid roan pure bred Shorthorn yearling heifer. Peaker Bros.

Yorkton, Assa.—One grey broncho mare, 15½ hands, 6 years old, 2 on left hip, halter on also long tether rope. \$5 reward. John McDougall.

Yorkton, Assa.—One grey mare, nearly white, dark mane and tail, 15½ hands high, weighs 1,300, had a rope on neck and halter. Reward. Jno. McDougall.

Yorkton, Assa.—One dark grey mare, five years old. Edward Sinet.

Estray.

Alameda, Assa.—One mare, bay, three white feet, white face; one mare, black, white hind feet, white face. Jno. Hurchburg, 16, 3, 4, W2.

Adair, Assa.—One broncho mare, 9 years old, bright bay, E on right shoulder, irregular brand on right hip and left shoulder, left hind foot white. Auguste V. Viede, 21, 16, 9, W2.

Bear's Hill, Alta.—One stallion, about 2 years old, dark bay, left front and hind feet white, star on forehead. L. D.

Bagot, Man.—One large white cow, with reddish head and neck; also one black calf. Hector Paisley.

Balcarres, Assa.—One sorrel horse, white strip on face, feet all white, branded left shoulder (I); one bay horse, large white spot on face, one hind foot white, branded on left hip horseshoe. John Balfour, 12, 21, 12.

Calgary, Alta.—One cayuse horse, red, about 14 hands, white feet. J. Bradley.

Carlyle, Assa.—One horse, bay, H on left hip, star on forehead, black points; one mare, sorrel, white legs, WF on right hip, stripe down face. Jas. Cutler.

Calgary, Alta.—Since 1st July, mare, dark grey, almost black, DS on left shoulder. Isaac Wilkinson, NE qr. 26, 33, 2, W5.

Dalesboro, Assa.—One pony stallion, 2 years old, bay, star on forehead. G. T. Anderson, NE qr. 13, 6, 3, W2.

Rainum, SW qr. 10, 45, 24, W4.

Edmonton, Alta.—One stallion, 2 years, cream, dark mane and tail. Sidney Mc-Aron, 32, 53, 23, W4.

Estevan, Assa.—One mare, about 2 years, chestnut, very tame, of blood stock, hind feet white, large star on forehead, small spot on nose. Mike Cline.

Fort Qu'Appelle, Assa.—One mare, about 4 years, dark bay, spot on forehead and upper lip, white hind feet. Jos. Blondin.

Innisfail, Alta.—One bay mare, branded diamond cross, foundered a little in fore feet. James M. Bilton, 12, 35, 27, W4.

Innisfail, Alta.—One two year old heifer, irregular brand on left side, under cut on right ear. A. C. Langton, NW qr. 30, 34, 28, W4.

Millarway, Alta.—One bay broncho gelding, about 2 years old, long rope attached. J. D. Ross.

Pheasant Forks, Assa.—One yearling stallion, iron grey. R. H. Hall.

Pheasant Forks, Assa.—One pony mare, bay, right hind foot white, WP on right flank; one pony mare, iron grey, left front foot white. F. W. Pinder, 4, 22, 7, W2.

Pine Lake, Alta.—Two red and white steers, branded B J I upon left shoulder. W. Greenwood.

Qu'Appelle Station, Assa.—One mare, brown, with colt; one black colt, stripe down face, branded W; one bay horse, stripe down face, irregular brand; one yearling filly, bay, stripe down face, irregular brand; one two year old bay filly, stripe down face, irregular brand; one brown mare, with colt, irregular brand. John Weal.

Regina, Assa.—One horse, 2 years, white. W. H. McIlree, SE qr. 6, 18, 19, W2.

Wapella, Assa.—One pony mare, aged, black, 00 on left shoulder, IC right shoulder, indistinct brand on thigh, white hind fetlocks, saddle marks. Wm. Tudge, 16, 15, 1, W2.

Yorkton, Assa.—One small red and white yearling bull. W. T. Atlee, 28, 25, 4.

Rev. W. A. Burman, St. John's College, Winnipeg, reports that he has found a sample of the Prickly Lettuce growing on one of the streets of Winnipeg. This is a most troublesome weed and has been classed by the Department as a noxious weed. Farmers will do well to be on the look out for it, as this is its first appearance in Manitoba. A description of it will be found in the Noxious Weed Bulletin.

It is expected that David Horne will be chief grain inspector for Winnipeg. No fitter man could be found. He has the confidence of all who are familiar with the grain business of the west.



Manitoba Crop Estimates for 1899.

The August crop report recently issued by the Department of Agriculture shows a very satisfactory state of affairs. The estimated yield of wheat this year is placed at 33,504,766 bushels as against 25,913,155 bushels last year, the average yield as 20.55 bushels per acre as against 17.41 last year. The Department has gained a name for conservative estimates, always being under the mark than over it. Therefore we can place the greater reliance on the estimates as made by the large corps of intelligent crop correspondents throughout the province. The total yield of grain for the year is estimated at 62,429,335 bushels, an increase of 13,411,498 bushels over 1898.

Although seeding time was a little later than usual the grain made quick germination and rapid growth and promised exceedingly well at the time the June bulletin was sent out. This bright promise was checked a little by a dry spell throughout the province about the time the heads of wheat were forming, and, no doubt reduced the yield a little. Since then there has been plenty of rain fall and wheat has filled very well. In places where threshing has been done an average yield of twenty-five bushels has been frequently reached by farmers and as high as thirty and over are reported from the Mennonite reserve. The crop is particularly free from weeds, but it is generally reported that there are only four rows of grain in the heads of wheat, instead of six, as frequently happens with a heavy yield. Oats and barley are reported above the average.

WHEAT:

District.	Area in Crop.	Ave. Yield.	Total
	Acres.	Bus.	Bus.
N.W.	137,700	20.3	2,795,310
S. W.	682,965	19.25	13,147,976
N. C.	306,560	21.5	6,591,040
S. C.	390,770	22.	8,596,940
E.	112,000	21.2	2,374,400
Prov. 1899..	1,629,995	20.55	33,504,766
Prov. 1898..	1,488,232	17.41	25,913,155
Prov. 1897..	1,290,882	16.49	21,284,274

OATS.

District.	Area in Crop.	Ave. Yield.	Total
	Acres.	Bus.	Bus.
N. W.	86,920	35.12	3,052,630
S. W.	196,020	42.67	8,364,173
N. C.	90,160	38.66	3,485,585
S. C.	111,156	41.4	4,601,858
E.	90,880	38.5	3,498,880
Prov. 1899..	575,136	40.	23,003,126
Prov. 1898..	514,824	35.02	18,029,944
Prov. 1897..	468,141	26.73	12,517,112

BARLEY.

District.	Area in Crop.	Ave. Yield.	Total
	Acres.	Bus.	Bus.
N. W.	18,590	28.15	523,308
S. W.	35,640	30.45	1,085,238
N. C.	33,840	30.03	1,016,215
S. C.	55,842	32.14	1,794,761
E.	39,000	28.55	1,113,450
Prov. 1899..	182,912	30.25	5,532,972
Prov. 1898..	158,058	29.17	4,611,314
Prov. 1897..	153,266	23.8	3,644,768

FLAX, RYE AND PEAS.

	Area in Crop.	Ave. Yield.	Total
	Acres.	Bus.	Bus.
Flax, 1899..	21,780	13.6	296,208
" 1898 ..	25,000	14.0	350,000
" 1897 ..	20,653	15.0	309,000
Rye, 1899..	3,217	20.4	65,626
" 1898. . .	3,198	25.0	79,950
" 1897. . .	2,975	18.5	55,037
Peas, 1899..	1,366	19.5	26,637
" 1898. . .	1,594	21.0	33,474
" 1897. . .	1,669	23.0	38,387

Total estimated crop of 1899..62,429,335
Total estimated crop of 1898..49,017,837
Total estimated crop of 1897..37,849,373
HAY.

Owing to the large amount of rainfall many good hay meadows may never be cut at all this year. Still, higher lands have a heavy growth of grass and the total cut of hay will be very large.

District.	Prairie hay.	Cultivated grass.
N. W.	2.1 tons	2. tons.
S. W.	1.7 tons	1.9 tons.
N. C.	1.8 tons	1.7 tons.
S. C.	1.6 tons	1.7 tons.
E.	1.7 tons	2. tons.
Province	1.8 tons	1.86 tons.
Prov., 1898	1.4 tons	1.5 tons.

BREAKING AND SUMMER FALLOW.

District.	Breaking. Acres.	Summer Fallowing. Acres.
N. W.	27,859	43,053
S. W.	61,911	230,539
N. C.	22,688	61,448
S. C.	25,544	53,200
E.	13,488	23,600
Province	151,490	411,840
Province, 1898..	134,905	268,830

LIVE STOCK.

With the exception of a little distemper among the horses of certain districts and that cattle are suffering from flies, the report shows that live stock generally are in prime condition and excellent health.

The first annual show of the Rainy River Agricultural Society was recently held at Fort Francis. There was a good display of grain in the sheaf, roots, vegetables, flowers and dairy produce, all showing the fertility of the district.

Within the last few months there has been a great addition made to the producing power of the binding twine factories down in the States. The States of Illinois, Minnesota and North Dakota are fitting up larger additions to their present spinning capacity, and the McCormick Co. are building a large new mill at Chicago. Other firms are extending in the same direction and along with the large increase of grass binding twine promise much for the cheapening of twine before another crop needs to be cut.

A series of Farmers Institute meetings will be held along the Calgary & Edmonton Railway line during the early part of October, under the auspices of the Territorial Department of Agriculture. It is likely that the following points will be touched, namely: Fort Saskatchewan, St. Albert, Strathcona, Edmonton, Wetaskiwin, Lacombe, Red Deer, Innisfail and Olds. The speakers will be the Commissioner of Agriculture, G. H. V. Bulvea, Angus Mackay, of Indian Head, and T. N. Willing, the Territorial Weed Inspector.

Dr. Fletcher on Summer Fallowing.

While addressing institute meetings in Southern Assinboia, Dr. Fletcher had the following excellent advice to give the farmers on summer fallowing:—It was, he said, the salvation of the Northwest and for teaching this more than for anything else Angus Mackay, of the Experimental Farm, deserved the thanks of the farmers and the country. Many farmers thought the object of summer fallowing was to keep down weeds. Incidentally, summer fallowing did keep down weeds, but its main object was to preserve moisture. They all knew that in the early days farmers came to the Northwest, farmed, or thought they did, failed, and went away declaring the country was too dry to grow wheat. Those who had summer fallowed knew better than this. They knew that if done properly it preserved the moisture one year, two and sometimes even three years.

How was this done? It was that by summer fallowing a "dust blanket" was put on the surface of the land. Let any one throw some water on a dry, dusty place. What followed? The dust and the water did not mix, but the water ran about in bubbles. Let, however, water be thrown on a muddy place and the mixture of the mud and the water was almost instantaneous. The dust and the water did not assimilate; the mud and the water did. Therein lay the whole secret of summer fallowing. A dust blanket was formed on the surface with which the moisture beneath the surface did not easily assimilate and so could not find its way to the surface and escape by evaporation, but was kept beneath the surface for a very long time, as already said.

Now, the erroneous idea that summer fallowing was to put down weeds had led the farmers to put off the operation until too late in the season. He had the idea that if he had but a good swathe of weeds to plough in it would enrich the soil, that he was putting back in the soil what the weeds had taken out. Green plants, he said, were good for the soil. Let it be remembered, however, that he could never put back into the soil that way as much as the weeds had taken out; so that it would have been better to have prevented the plants from growing and so removing from the soil what they had taken out, to say nothing of the risk of ploughing in seeds that would ripen under the soil and ultimately germinate. Remember, then, the great object of summer fallowing, and to do the work as soon after the June rains as possible, so as to preserve all the moisture possible. All summer fallowing ought to be finished by the first week in July.

Seeding down was a process that deserved notice. When a piece of land was infested with weeds and the farmer had not the time to treat it in the ways above indicated, let it be seeded down with something strong, say Brome grass. In the same way that weeds would crowd out a crop of grain and reduce the yield of seed, so weeds might themselves be choked by a more vigorous plant which would prevent their getting light and air, and thus weaklings would be produced instead of strong and vigorous plants. But seeding down would not kill the weeds. That must always be remembered. It would only weaken them. When the time came to break the land again, to kill the Brome grass or whatever the crop was, seeds of weeds would still be there, though in less quantity, and the destruction of the sickly plants would be an easy matter.

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J. Young's New Barn.

We have pleasure in giving our readers a view of the new basement barn erected by A. Card, Glenboro, for John Young, of Cypress River. The barn is a large one, 54x85 ft., on a good stone wall, 9 ft. high. The side posts of the barn are 14 feet high and the centre ones 24 ft. The distance between the side posts and the centre ones is 16 ft., while that between the two centre posts is 22 ft. The barn floor has two driveways, off which are feed chutes for putting feed down to the stables below. Under the approach to the west driveway Mr. Young has a root cellar, 12x20. On the barn floor between the two driveways are rooms for storing and grinding grain and the water tank. The stables are well laid out, there being ample room everywhere, which will be found of great comfort when feeding time comes. The stable floors throughout are of Thorold cement.

Weeds in Stubble Fields.

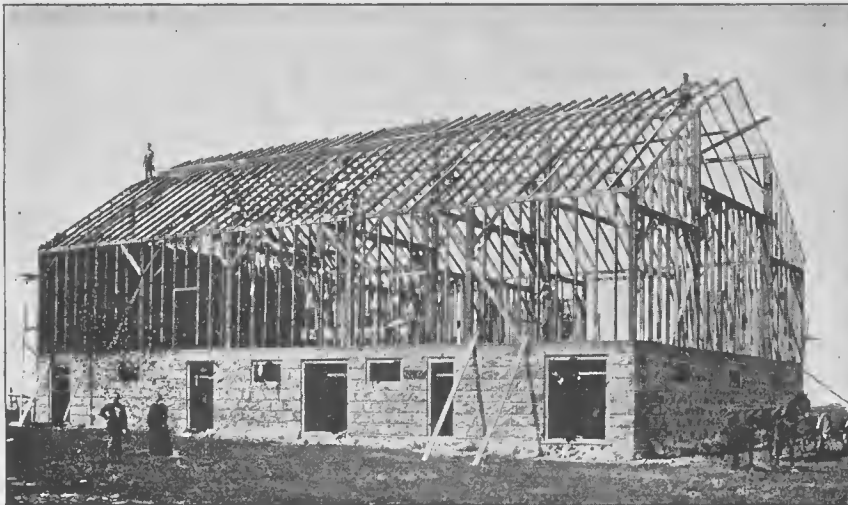
J. M. Westgate, of the Kansas Experiment Station, says:—"The thousands of acres of grain stubble which will lie over unplowed awaiting cultivation in the spring will be neglected on some farms,

will be free from the seed and the stalks and leaves will remain on the ground, forming a valuable mulch, and when rooted will return to the ground a considerable amount of plant food."

Noxious Weeds in Assiniboia.

Synopsis of the Commissioner of Agriculture's addresses in Southern Assiniboia.

In the course of his addresses the Commissioner of Agriculture, Hon. G. H. V. Bulyea, impressed upon the farmers the thought that the question of noxious weeds was one of the most important they would have to handle. The Department had realized this, and that was why the meetings had been organized. The policy of the Department was to prevent the weeds getting a foot-hold in the Territories. The government had taken warning from what had taken place in the neighboring Province of Manitoba. There were lands in that province that had become practically valueless on account of the hold noxious weeds had got upon them. He knew of a case where a person had offered a loan company 240 acres of land for \$50 and the company had replied



View of Basement Barn erected this year by John Young, Cypress River, Man.

and wherever it is neglected will produce weed seed enough to give a serious back-set to the war on weeds even on an otherwise well tilled farm. The number of seeds produced by some of the stubble weeds is enormous. Estimates based on partial counts gave for the cockle bur 9,700 seeds, or half that number of burs. Rag weed showed 23,100, while one of the pig weeds (Acnida) headed the list with 954,000 seeds. These estimates are much too large for the average individuals which grow crowded in the fields, yet they show their power to produce seed. A portion of the farm left thus each year will make almost fruitless the most determined effort to rid the farm of noxious weeds. It is advisable to mow such fields just before the weeds go to seed. Some follow the practice of burning the stubble. There are some objections to this latter method. First, there will be strips of stubble left unburned sufficient to seed down the entire field. Second, the ground is unprotected from the sweeping winds of winter and early spring. Third, the fertilizing element contained in the stalks will for the most part be blown off by the wind. On the other hand if they be mowed the field

that they would not have the land as a gift in consequence of the reputation the locality had for noxious weeds.

The Northwest Government had determined to do its utmost to prevent that sort of thing happening in the Territories. This was not a new policy. Some years ago the municipalities of Indian Head and Qu'Appelle passed by-laws to cope with the evil. Of course these did not apply to portions of the country outside of those municipalities, and one of the first things he did when he became a member of the Assembly was, as one of a committee for the purpose, to prepare an Ordinance to do, throughout the Territories, what the two municipalities he had mentioned were doing within their own limits. That Ordinance was passed, and it gave very arbitrary powers to a weed inspector.

Persons who did not appreciate or understand the object in view, might consider the Ordinance too stringent in some of its provisions. The Government, however, considered the question, not only important, but serious; and he believed that when the farmers understood the nature of these weeds and the danger that accrued from them, they would

The Veterinary Association of Manitoba

Under the authority of Secs. 18, 19, 20, 22 and 24 of the Veterinary Association Act, 1890 (53 Vic., Chap. 60) the following persons ONLY are entitled to practice as Veterinary Surgeons in the Province of Manitoba or to collect fees for service rendered as such:

Atkinson, J. C.	Winnipeg.
Baker, G. P.	Russell.
Braund, F. J.	Wawanesa.
Brocken, G. E.	Clan William.
Coote, H. L.	Minnedosa.
Cox, S. A.	Brandon.
Dann, J.	Deloraine.
Dunbar, W. A.	Winnipeg.
Fisher, J. F.	Brandon.
Fowler, J.	Souris.
Graham, N.	Dauphin.
Green, E.	Birtle.
Harrison, W.	Glenboro.
Hatton, J.	Alexander.
Henderson, W. S.	Carberry.
Hinman, W. J.	Winnipeg.
Hilliard, W. A.	Minnedosa.
Hilton, G.	Portage la Prairie.
Hurt, W. N. J.	Belmont.
Irwin, J. J.	Stonewall.
Lake, W. H.	Miami.
Lawley, E. H.	Brandon.
Lawson, R.	Shoal Lake.
Leslie, W.	Melita.
Little, C.	Winnipeg.
Little, M.	Pilot Mound.
Little, W.	Boissevain.
Lipsett, J. H.	Holland.
Livingstone, A. M.	Melita.
Martin, W. E.	Winnipeg.
McDonald, J. D.	Oak Lake.
McFadden, D. H.	Emerson.
McGillivray, J.	Manitou.
McKenzie, G. A.	Neepawa.
McLoughry, R. A.	Moosomin.
McMillan, A.	Braudon.
McNaught, D.	Rapid City.
Monteith, R. E.	Killarney.
Murray, G. P.	Winnipeg.
Nagle, J. W.	Morden.
Reid, D. S.	Hartney.
Robinson, P. E.	Emerson.
Roe, J. S.	Neepawa.
Rombough, M. B.	Morden.
Rowercroft, S. V.	Birtle.
Rutherford, J. G.	Portage la Prairie.
Sankey, C. A.	Boissevain.
Smith, H. D.	Winnipeg.
Spiers, J.	Virten.
Shoults, W. A.	Gladstone.
Smith, W. H.	Carman.
Stevenson, J. A.	Carman.
Swenerton, W.	Carberry.
Taylor, W. R.	Portage la Prairie.
Thompson, S. J.	Carberry.
Torrance, F.	Winnipeg.
Waldon, T.	Killarney.
Walker, J. St. C.	Sheppardville.
Welch, J.	Roland.
Whaley, H. F.	Glenboro.
Whimster, M.	Hamiota.
Williamson, A. E.	Winnipeg.
Young, J. M.	Rapid City.
Young, M.	Manitou.

The practice of the veterinary profession in Manitoba by any other person is in direct contravention of the statute and renders him liable for prosecution.

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NOTICE.

Strayed on sec 6, tp. 8, rge. 22, one bay filly, three years old, white hind feet, star on face.

One bay filly, one year old, white hind feet.

July 8, 1899.

Postmaster, Dempsey, Man

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come to see that such legislation was not too arbitrary. It was true the inspector had power to order a man's crop to be destroyed, but the instructions from the Department to the inspector were that he was not to exert those stringent powers when the farmer was doing his best to get rid of the weeds. There were persons, however, who were not alive to their responsibilities in the matter, who thought they could do what they liked with their own, who imagined they could sow weeds or wheat, just as it suited them. Such men had to be dealt with in

these weeds. In some cases the owners of the lands had left and it was not known where they had gone; in others the land was owned by companies that declined to recognize their responsibility so far as the weeds were concerned. Last session, therefore, an Ordinance was passed to compel such persons and corporations to fulfil the duties of citizenship in this respect.

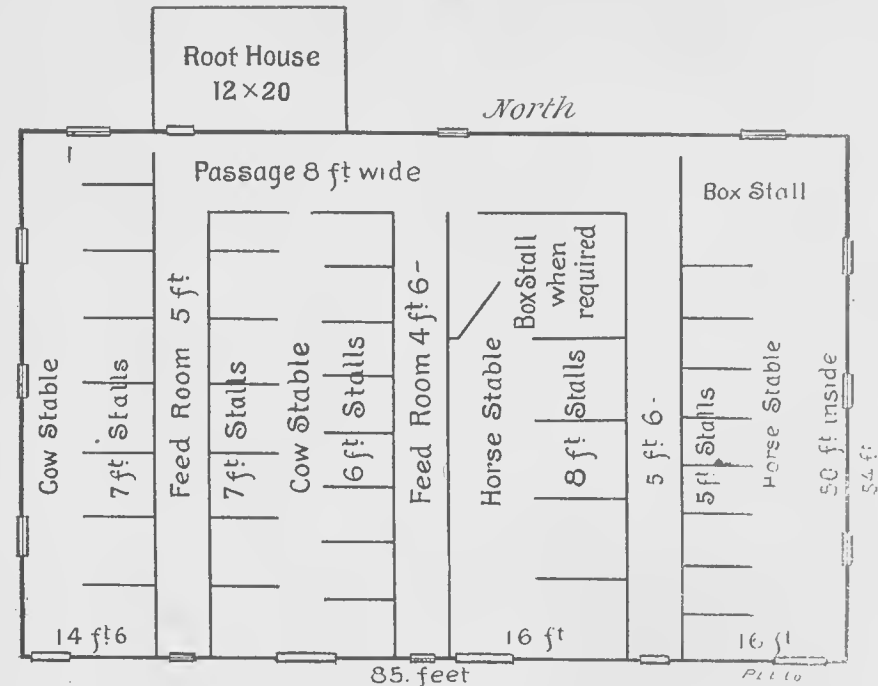
Legislation had already been effected compelling districts outside of municipalities to form themselves into local improvement districts wherever there were

away the weeds from deserted lands and the cost of doing the work would be charged up against the individual lands and collected in the same way as the local improvement tax. It was only right that the owners of vacant lands should bear the cost of destroying noxious weeds on their lands without burdening the public or a new-comer with that expense, especially when the occupiers of lands had to bear the cost of keeping their own lands clean that the unoccupied lands were making dirty for them. The C. P. R. lands they had not the power to tax, but so far as that powerful corporation was concerned, he was glad to say that it agreed to do all that could be done to clear the lands of weeds, and its officials were to assist the inspectors in the work of eradicating the weeds that were so prolific on the track. The Government had found the C. P. R. amenable to reason in the matter and willing to assist in every possible way. The great corporation evidently saw that its lands should not deteriorate in price in consequence of the presence of noxious weeds.

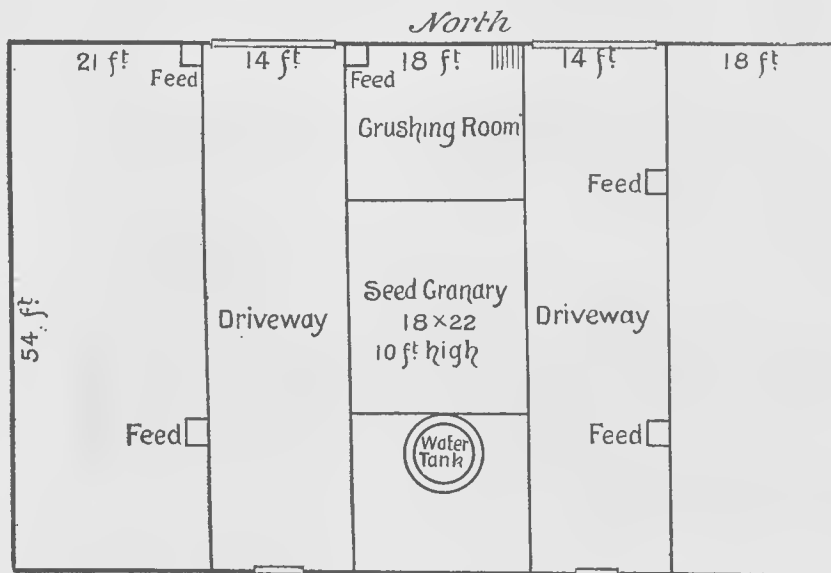
The Commissioner also pointed out that in addition to the above course of proceeding the Government had appointed more weed inspectors. Some time ago eleven local inspectors were appointed, but these had been found insufficient, and the number had been doubled. It was obvious that all these could not be botanists. There were not sufficient botanists in the whole country to fill these positions, but the best practical men that could be found had been selected. In addition to this the Government had been fortunate enough to secure the services of T. N. Willing, an expert botanist, the best in the west, who was not only a graduate of Toronto University, but a Northwest farmer. Mr. Willing was then going round the country instructing the local inspectors, so that there would be uniformity in dealing with the whole question instead of each inspector following his own peculiar ideas and his own pet methods. The new chief inspector would go over every district and in the fall would make a full report on the weeds in the different districts and indicate the best way to destroy them. In addition to this, specimens of the most prevalent weeds would be mounted for use in the schools, so that the children attending the schools would learn to recognize weeds and would be taught something about them and how to destroy them.

Another point on which there had been legislation was in regard to the elevators. Formerly farmers could take away the cleanings. Now in the first place, there was no guarantee that in taking away this refuse a farmer was taking away the cleanings from his own grain. His own grain might have been free from the seeds of weeds, but the refuse given him might be from a dirty crop. Thus a farmer might carry home to his own clean farm a stock of weed seeds, from a dirty farm. Anyhow, the refuse or cleanings from elevators had been found a prolific source whence spread the seeds of noxious weeds. It had been determined to stop this. When the power at an elevator was steam power there was no difficulty in the matter, as the refuse made good fuel. When, however, the power was horsepower or a gasoline engine the refuse could not be so disposed of. It was now, however, prohibited to take it away or to sell it, and the man who bought was as liable to punishment as the man who sold. The refuse had to be burnt or otherwise destroyed.

There was similar legislation in regard to threshing machines. A threshing outfit was another prolific source of spreading the seeds of weeds from one farm to



Plan of the Stables in John Young's New Basement Barn, at Cypress River, Man. Floors of Thorold Cement.



Plan of the Barn Floor of John Young's New Barn at Cypress River, Man.

a stringent way and the Government was determined to protect the careful and prudent farmer against the farmer who was careless and foolish.

One great trouble in the eradication of weeds is the large amount of vacant and unoccupied land and the Legislature felt that it was not fair to compel farmers to eradicate the weeds on their own lands while allowing adjacent or neighboring lands that had once been occupied to be really seed-beds for these weeds. These unoccupied lands had proved a sort of stumbling block to the eradication of

twelve residents within a prescribed area. These districts were not municipalities, and had neither the powers nor privileges of municipalities, but they were compelled to do public work and to contribute either in money or labor \$2.50 a year for the cost of them. The Government had undertaken the collection of the tax and the arrangement had been found to work well. The Government, therefore, determined to utilize the machinery of the local improvement districts in the matter of noxious weeds, and by the Ordinance of last session the authorities would clear

another, either in the sacks used, or by not thoroughly cleaning out the separator. Here, too, the law called for the burning of the refuse before proceeding from one farm to another.

Such were the means adopted by the Government to fight the noxious weeds and to keep them down, and he felt sure that if the farmers would do their part and do all they could to assist the inspectors to carry out the law, great good would be the result.

Spraying for Mustard.

*By Frank T. Shult, M.A., Chemist,
Dominion Experimental Farms.*

One of the most persistent weeds that farmers in many parts of Canada have to contend with is mustard, commonly known in Europe as charlock. Though an annual, it is most difficult to eradicate from fields in which it has become established, owing to the fact that the seeds—of which a large number is formed—are endowed with a strong vitality and are preserved, by the oil they contain, from decay until favorable conditions for sprouting occur.

Pulling the mustard when it appears among the grain, or keeping the weed from seeding by working the land (as under a hoed crop), are the two methods which have hitherto been in vogue to exterminate this pest, and when the work is done thoroughly they may be considered satisfactory and efficient. The former, however, is always costly, and the latter is sometimes not convenient. When, therefore, it was announced in the agricultural press that spraying with certain solutions of sulphate of iron and sulphate of copper had been tried successfully in England

and France, it was deemed advisable to make similar experiments here. We should then be in a position to furnish information at first hand on this subject.

The fields of the Experimental Farm being free from this weed, it became necessary to make the trials upon an adjoining farm, and for this purpose a field of barley was selected which showed a considerable amount of mustard. The size of the plot treated in each case was one-tenth of an acre, and the quantity of solution uniformly supplied to each area was five gallons, or at the rate of 50 gallons per acre. The date of spraying was June 26th, the grain being from 15 inches to 20 inches high, and the mustard practically the same height and just coming into flower. The chief data may be briefly stated as follows:—

Sulphate of Iron, 5 per cent.—No effect upon barley. The leaves were practically all stripped from the stems of the mustard, but the weed was not killed, as evidenced by new leaves subsequently starting, the plant flowering and the seed-pods filling out and maturing. The leafless stems were quite green a fortnight after the spraying, and were apparently furnishing nourishment to the seed.

Sulphate of iron, 10 per cent.—A slight scorching of some of the leaves of the barley was to be noticed. A fortnight after the spraying this was not discernible, and though this spray may have slightly retarded growth, it is not probable that the yield of grain was affected. Though the effect upon the mustard was more pronounced than in the foregoing instance, as noticed by the "spotting" on the stems, it was not sufficiently strong to prevent flowering and the ripening of the seeds, a large proportion of which proved, upon testing, to be vital.

Sulphate of copper, 2 per cent.—A certain amount of injury to the leaves of the

barley resulted, evidently retarding growth to a somewhat greater degree than the 10 per cent. iron sulphate solution. At the end of two weeks, however, this effect had practically all disappeared, and it became doubtful if there were any permanent injury to the grain. The mustard very quickly and markedly showed the effect of the spraying, both the stems and the leaves dying without allowing the plant to seed. Two weeks after spraying, a few living mustard plants were found in the plot, but it is believed they had escaped the solution, owing to the height and overshadowing of the barley.

Sulphate of copper, 5 per cent.—This solution damaged the barley in a much more pronounced manner than the preceding solution; in all probability it somewhat lessened the yield of grain, though, as the ground was very uneven in character, no comparative data on this point could be obtained. The mustard was all killed; an inspection two weeks after the spraying did not reveal any living plants.

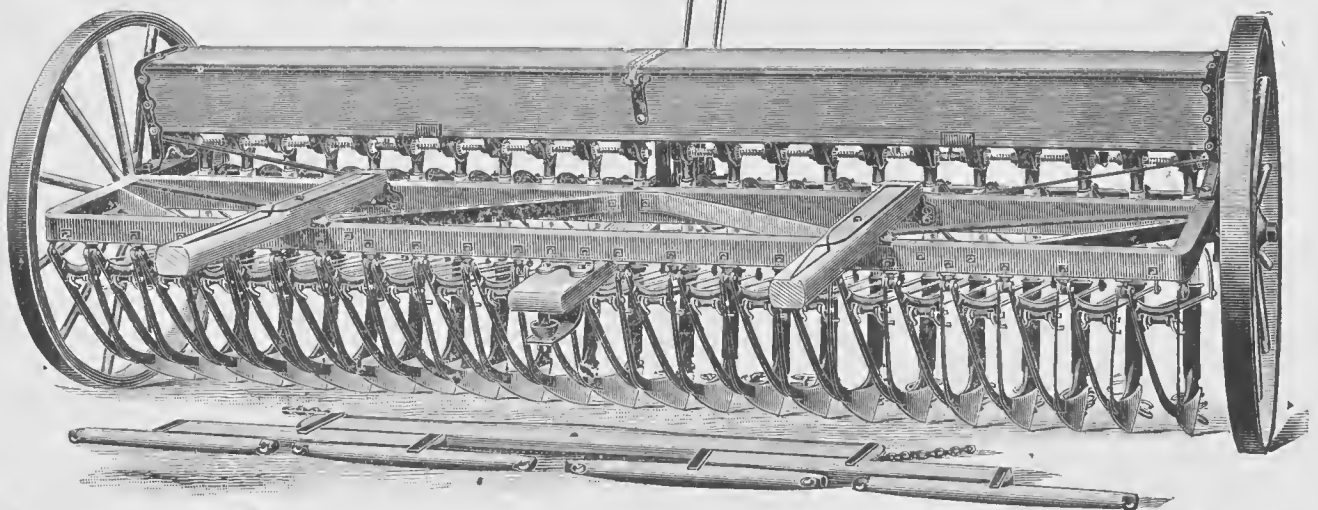
In order to ascertain the effects of these solutions upon this weed at a younger stage of growth than that just reported upon, mustard seed was sown in rows in a plot upon the experimental farm. When the mustard plants had reached the height of six to nine inches they were sprayed, as follows:—

July 20th.—Sulphate of iron, 5 per cent. Not all killed. The few survivors possessed green stems and in time sent out new leaves. It is extremely doubtful, however, if the plants will have sufficient strength to flower.

Sulphate of copper, 2 per cent.—All the plants died within a few days.

July 22nd.—Further sprayings were made: Sulphate of iron, 5 per cent. The stems were stripped of all their leaves, but in the course of a few weeks fresh leaves had appeared on many of the plants.

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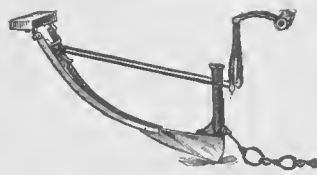
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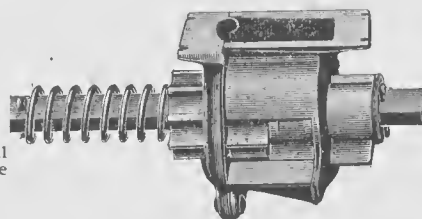
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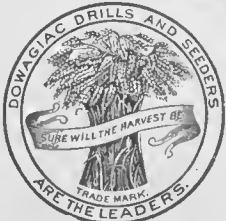
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Sulphate of iron, ten per cent.—Though somewhat more severely attacked than by the 5 per cent. solution, there was sufficient vigor left in many of the plants to send out new leaves, after a few weeks.

Sulphate of copper, 2 per cent.—Only a very few of the older and more vigorous plants escaped destruction, probably not more than three to five per cent. This solution is evidently strong enough to kill all mustard plants six inches in height and less.

Sulphate of copper 5 per cent.—All the plants killed.

From the above data, I make the following inferences:—

1.—That a two per cent. solution of sulphate of copper, that is, 2 lbs. in 10 gallons of water, is, all things considered, the most effective, safest (as regards the grain crop) and most economical to use. The spraying should be done thoroughly, and for that purpose 50 gallons per acre will be required. If a heavy rain follows the spraying within 24 hours, the operation will require to be repeated.

2.—That in order that the work may be effective, spraying should not be delayed after the mustard plants have reached a height of six to nine inches. If allowed to grow taller than this, stronger solutions would be necessary and in larger quantity, as the grain would then largely protect the mustard.

For many valuable suggestions and much assistance in the work, I am indebted to W. H. Macoun, Horticulturist of the Experimental Farm, who concurs with me in the deductions drawn from this investigation.

Smothering Weeds in Waste Places.

There is an old saw which says that "Satan always finds a task for idle hands." This principle has its counterpart in the vegetable kingdom, and there is no doubt weeds are largely spread through the agency of waste lands. We do not mean by this the prairie lands which have never yet been broken. These are engaged in grass growing and are comparatively innocent in the matter of weed propagation. Patches of land which have been broken, or where for some other reason the sod has been killed and then left vacant, are the offenders. Nature abhors a vacuum, and such patches soon become active breeding places for weeds. Any observer will notice that a large number of these are to be found around most of our towns, along the roadways, and on a good many farms, and the spreading of seed from these patches must be great. The writer has now in his mind a town where a patch of Canadian thistles has secured a footing, and which, despite the request of one or more farmers, has been left almost alone—and this, too, in a district where this plot of thistles is almost, if not the only one.

In the Manitoba Noxious Weeds Bulletin, Rev. W. A. Burman offers the following very sensible observations and suggestions in regard to this matter:—

"There are many instances on record of low-growing tender plants being used to choke out plants which seemed to defy destruction in other ways. * * *

From observations made during the past few years in the province, the writer is persuaded the same principle may be applied to our roads, railway grades and waste places in both town and country.

"The plant suggested for this purpose is the common white or Dutch clover. It is possessed of great vitality, grows easily from seed, is proof against our severest frosts, spreads rapidly and is very persist-

ent in its growth. As an illustration of what it may accomplish may be noted certain streets in Winnipeg and West Selkirk, where it has killed out every weed. From the latter town it has been carried along the ditches to the Red River, in the lower reaches of which it has in many places asserted itself above all other vegetation on the river bank.

"The suggestion is therefore made that municipalities, railway corporations and individuals be encouraged to make trials of this new method of fighting weeds in places where cultivation is impossible. A few dollars spent in seed scattered along roads, railway grades or on waste places, would, I am convinced, soon lead to a wonderful reduction in the annual cost of destroying weeds. It would have the further advantage of providing pasturage upon land now worse than useless, of binding the surface of grades, and of blotting out patches of unsightly weeds which are such eyesores in our towns."

Action has been taken, we believe, in a few places to follow this suggestion, but still it has not been taken hold of generally. As to the hardness of the plant, the writer can say that he has seen it growing in all sorts of places from the Red River to the Rocky Mountains. Its smothering habits are well known, and there are thousands of spots in Manitoba and the Northwest Territories which raised weeds this year, to which this suggestion would apply.

The Rainmakers' Secret Out.

The Northwest has had plenty of rain this season, but there have been times, and may be again, when rain would be most desirable. The following article from the Kansas City Journal will, therefore, make interesting reading, and we give it for what it is worth: "Some years ago Kansas was overrun with so-called 'rain-makers,' who did a thriving business in the vicinities afflicted with drouth. The Rock Island railroad had a rainmaker who travelled about the country in a special car and made rain from Texas to Iowa. At the time the process employed was guarded as a secret, and no doubt the mystery surrounding the operation had much to do with the interest aroused among the people. But now comes George Matthews in the Wichita Eagle with a full exposition of the means employed by the Rock Island wizards and others, and the following is the recipe given by him: Ten fluid ounces of sulphuric acid; fifty fluid ounces of water; five ounces of zinc. Renew every hour and stir every thirty minutes day and night until rain comes. The moment rain begins to fall remove jar or crock. In territories west of Kansas use one-third less; at sea-level use double the quantity. In Kansas work only on southerly winds, which are the moisture bearing winds. Begin an experiment only in a clear sky. One station of the experiment, if successful, will produce a rain thirty to fifty miles wide in diameter. A better and more certain result can be secured by having three or more stations forty or fifty miles apart.

"According to Mr. Matthews, this mixture left in an open-mouthed jar generates hydrogen gas which rapidly ascends. The theory is that this gas ascending creates a shaft through the hot air down which the cold air rushes, creating a storm centre and gathering moisture for precipitation. Matthews claims that of the 200 experiments made by him at least 180 were successful."

If this is reliable there will be no need of any irrigation ditches; or any more dried up crops.

The New Grain Inspection Act.

This Act, which nominally came into effect on Sept. 1, 1899, is in substance an endorsement and working definition of the views embodied in resolutions adopted at a meeting of the Western Grain Standards Board, held in Winnipeg, April 5 and 6, 1899. All the members except W. D. Postlewaite were present on that occasion, and the resolutions founded on were unanimously adopted. The president, secretary, and Messrs. C. Castle and K. Campbell, were appointed to go to Ottawa in support of the resolutions and to assist in the framing of the legislation necessary to carry them into practical effect.

The grade of No. 1 hard is raised from 66 per cent. of hard Red Fyfe to 75 per cent. of "plump" hard red. Inspectors are to grade in accord with the provisions of the General Inspection Act and provide each year samples in suitable quantities for the use of all who ask for them, to be charged for at a fixed moderate rate. Should the season result in the production of any considerable quantity of grain unfit for grading, then the Western Grain Standards Board shall be convened by the Chief Inspector for the purpose of making commercial samples suitable to the necessities of the case. Except for such purposes this board will not in future have anything to do with the framing of grade samples.

The principle features of the new Act are that Winnipeg inspection shall be final, except in certain specified cases, that no mixing shall be permitted in "public elevators and grain warehouses," such as those of the C. P. R. at Fort William, and that "no certificate shall be issued east of Fort William for a higher grade than the western certificate" allowed. Every care is taken that no mode of handling shall be permitted that aims at, by what in the past was called "skinning the grades" lowering the reputation of our grain on foreign markets.

The agents by whom inspection is to be effected are a chief and deputy inspectors, from whom appeals may be taken by any shipper who feels himself aggrieved by their decisions, to a board of survey meeting at Winnipeg.

While going through the House of Commons at Ottawa a clause was introduced by N. F. Davin that after some discussion was rejected, principally on the ground that it could not be operated without a change in the whole grading system. This clause was afterwards introduced in the Senate and there carried. The bill thus amended was accepted by the Commons rather than sacrifice all the work already done, and becomes now a part of the law of the land. The clause reads as follows:

"That wherever there shall arise a difference of opinion between the farmers selling wheat and the wheat buyer as to classification, the farmer, while taking the offered price for his wheat, may insist on the buyer with him selecting a sample to be sent to the head inspector at Winnipeg for a decision as to its proper grading, and if the inspector grades the sample higher than the price paid for it, then the buyer shall pay to the seller the difference in price the advanced grading calls for."

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Head-of-the-Lakes Elevators.

The increase in the elevator capacity at Superior-Duluth before another year will be enormous. This expansion is in keeping with the larger movement of grain through this market and is accompanied with enlarged railroad facilities, including more switching yards and rolling stock. As near as can be learned the new elevator capacity which is going in here is as follows:—

	Bus.
Peavey system, Duluth (Rice's Point)	5,000,000
Great Northern, West Superior.	5,000,000
Omaha, Superior (Itaska)	1,250,000
United States Flour Milling Co., Duluth (Rice's Point)	1,000,000
United States Flour Milling Co., Superior (Anchor mill)	300,000
Consolidated E, Duluth, (increase)	700,000
Hall cleaning house, West Superior.	50,000
Total.	13,300,000

Several other houses are being talked of, but this list only includes houses that are either under construction or are quite certain to be erected before another season. The Great Northern steel elevator is being pushed to completion at the present time. These additions to the present accommodation will give a capacity for grain of 35,000,000 bushels, besides what is used for the various flour mills now running.

The Dirtiest Farm Can be Made Clean.

At the close of each lecture given by Dr. Fletcher in Southern Assiniboia, many questions were asked and a great amount of information elicited thereby. One person asked how it was that a slough bottom that had been burnt yielded a crop of lamb's quarter, whereas none had grown there before. Dr. Fletcher explained that lamb's quarter would be found as an insignificant plant in proximity to nearly every slough, and as potash was very favorable to the growth of the plant, it flourished in consequence of its new and favorable environment. A similar phenomena was observable where wood ashes had been thrown out.

In answer to a question whether weeds could not be destroyed by some acid, Dr. Fletcher said that sulphate of copper or iron would destroy the plants, but the trouble and cost of spraying made it a clumsy process, and there was, too, a risk of injuring the soil.

In reply to a despairing remark that it seemed impossible to get rid of weeds where once they had a strong foot-hold, Dr. Fletcher asserted that the dirtiest land could be got clean by perseverance. He instanced the Red River Valley, which was over-run with weeds, but there were farms here and there that had been successfully dealt with and were as clean as a table. A great deal depended upon information on the subject being widely spread. Every means should be taken to spread information: lectures, bulletins, through the schools and through agricultural societies, which last had done an immense amount of good throughout Manitoba.

In regard to sowing on stubble, Dr. Fletcher said it should never be done twice in succession. There was a temptation to do it because the crop would perhaps come a little earlier; but the danger of weeds was too great for the risk. A farmer should have his farm in three parts—one-third summer fallow, one-third

crop in stubble and one-third crop on summer fallow.

Importance of Knowing Weeds.

T. N. Willing, Chief Weed Inspector for the Territories, when addressing meetings at Whitewood and Carnduff, said that he spoke as a farmer speaking to farmers. Many farmers, he said, did not know the difference between one weed and another, nor yet the difference in their seeds, and, consequently, did not know the different modes of treatment. The local inspectors would enlighten them on this point and also tell them how to discern between good seed and bad seed. This was important. He did not wish the farmers to have the seeds of weeds along with their crops, and thus spread weeds all over the country. He had seen many weeds growing around farm yards that the farmers thought of no account, but which were harmful and noxious weeds. If the farmers knew how to recognize these they would pull them up in the spring and there would soon be few noxious weeds.

He had heard it said that there too few inspectors, but if every man became the inspector of his own farm there would be inspectors enough and the weeds would soon disappear. Farmers should remember that the better the land the better the weeds, so those with good farms should look out. He had found in his travels about the district that summer fallowing was not done early enough. When it was done as late as it was generally it was not fallowing at all; it was

seeding—seeding with weed seeds. On the stubble there were many weeds which, although not exactly noxious, would yet give trouble if not got rid of. He found, too, that farmers were feeding the cleanings without boiling. This would spread weeds through the animal's droppings, and he had noticed on manure heaps many seedlings from last year's seeds.

Strathcona Agricultural Society talks of a fall show for vegetables and grain.

The highest windmill in England is the "High Mill" at Great Yarmouth. It is believed also to be the highest in the world. Built in 1812 at a total cost, it is stated, of £10,000, its height in brick is 100 feet, and the wooden cage on the summit further increases this another ten feet. In a high wind the mill works at thirty horse-power.

Strathcona, Alta., Agricultural Society are intending to take steps to co-operate with the farmers in securing grading for wheat. Considerable dissatisfaction has been felt here, as well as at some other points, in regard to the tests made by local buyers. The exact action of the Strathcona society has not yet been decided upon, but it is proposed to secure samples of the different grades, and have these in some place where every man can compare his own wheat with them. This would probably make the farmers a little more independent in the matter of accepting or rejecting a grade allowed by a buyer. It may be also that what appears to be fair samples of the grain of the district will be sent to Winnipeg or Fort William for inspection.

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Notes on Fruit Acclimation.

Specially written for the Nor'-West Farmer by Prof. N. E. Hansen, Brookings, South Dakota.

The writer of this article has been for several years professor of horticulture at the state college, Brookings, S.D. He has visited the Experimental Farms at Brandon and Indian Head and was selected by the American Secretary of Agriculture to visit European and Asiatic Russia to make investigations and collect fruits, seeds and specimens from those remote regions, with a view to their being introduced and naturalized in America. He is, therefore, peculiarly fitted to speak with authority on such topics, and the following article will, therefore, be of special interest to our readers.

A visit to European Russia in 1894, followed by a brief trip to Manitoba and Assiniboia in 1896, and in 1897-98 by a later trip of nearly ten months in European Russia, Central Asia and Siberia, suggests to the writer some possibilities for horticulture in the Canadian prairie Northwest.

APPLES.

The future apples for Manitoba and Assiniboia will probably come from crossing the small berry-pointed crab of Siberia. *Pyrus baccata*, with the hardiest Russian apples. This work has begun in Russia itself, as the Russians themselves feel the need of extending the limits of apple culture northward, both in European Russia and in Siberia, with the extension of the new Siberian railway. The results are promising so far.

Siberia is a large country with much diversified climate. In my overland journey of over two thousand miles in Northern Turkestan, Western China and Siberia, I found French pears grown in Southern Siberia on the edge of Russian Turkestan. I soon passed out of this belt to far north of where maize (Indian corn) could be grown, but was not, for lack of a market. *Pyrus baccata* is native chiefly in the Transbaikial region west of Lake Baikal, where the climate is purely continental. The coldest month has a temperature of -28 deg. C. (or 10.4 deg. F.), with a summer temperature 42 deg. C. (or 75.6 deg. F.) The mean annual temperature is -2.75 deg. C. (or 27.05 deg. F.).

A Russian government report says: "As for the mean temperature of the vegetative period, although it is half a degree below that of the cultivated zone of Eastern Siberia, amounting to only 13.5 deg. C., yet the cereals, notwithstanding the constantly frozen soil in some places of this country, at a depth of $1\frac{1}{2}$ arshire (42 inches), ripen well, thanks to the more powerful action of the sun's rays, depending not only on the southerly situation of the Transbaikial, but also on the cloudless and transparent atmosphere, as compared with the cultivated regions of Eastern and Western Siberia.

"In reference to the amount of rainfall, the climate of Transbaikalia is also incomparably more continental than that of the agricultural zone of Eastern and Western Siberia. The quantity of moisture precipitated here in the course of the whole year does not exceed 290 millimeters (11.42 inches), instead of the 360 and 380 of the agricultural zones of Eastern and Western Siberia, while the winters

are almost entirely snowless, with 13 millimeters ($.51$ inches) during the whole season. Fortunately, the summer rainfall, as much as 200 millimeters (7.87 inches), is considerably higher, not only than that in Eastern but than that in Western Siberia, and the conjunction of these conditions explains the fact that the Transbaikial country may even to-day be considered the chief granary of the whole Amour-Littoral region."

If I remember rightly Mr. Mackay's remarks at the time we visited Indian Head, he told me that *Pyrus baccata* was the only species of the apple that had grown hardy at the Indian Head Experiment Station. At Brandon, Mr. Bedford showed me the lingering remnants of a large lot of Russian apples. Part of this failure was probably due to root-killing of the tender American stocks on which the trees had been grafted.

The facts just quoted tend to show why *Pyrus baccata* does not root-kill either in Russia, Dakota or in Assiniboia. Young seedlings of this species raised on the college grounds at Brookings, South Dakota, in 1898, came through last winter in perfect condition. Scions of *Pyrus baccata odorata* grafted in 1897 on Vermont seedlings and planted in the spring of 1897, made a good growth in 1897 and rooted from the scion. The Vermont seedling root was dead this spring, but the roots emitted from the scion were perfect and sufficiently strong to enable the top to make a vigorous growth. A forthcoming bulletin will contain photographs illustrating this.

ROOT-KILLING.

The recent severe winter has caused a great loss in fruit trees and plants and other ornamental trees and plants over all parts of the Northwest. The losses from root-killing of nursery stock, especially apple trees, have been very heavy. In examining young apple root-grafts set last spring on the college grounds, we find, as has been the case once before, that the main part of the Russian apple scion is alive and sound, while the American seedling grown from Vermont seed is dead. Last winter, however, the young scion roots were also killed. Reports received from nurserymen in various parts of the Northwest indicate that this has caused great loss. The experience of the past winter emphasizes the need of a hardier stock for apple trees. Similar losses were formerly experienced on the northern borders of the fruit-growing sections of Russia from root-killing of the seedling apple used as stocks for budding or grafting. The remedy found for this was to graft or bud on seedlings of the small-fruited true Siberian crab, *Pyrus baccata*.

In Transbaikalia, Siberia, this fruit is found in such profusion that a range of mountains have a Russian name signifying "apple mountains." The fruit is small, about the size of a cherry, although occasionally trees are found bearing larger fruit. These sports or variations have been noted and described by the late Dr. Regel, of the Botanical Gardens at St. Petersburg. Since this method of propagation was adopted in Russia the loss from root-killing has been prevented. The effect is to dwarf the cultivated apple and to make it bear at least two years earlier. Small plants of this crab were obtained by the writer in 1897, in Russia, for the United States Department of Agriculture, and these small one year plants came through last winter in perfect condition. Some plants grown from seed proved equally hardy, although on ground that was bare of snow when the temperature was fully 40 degrees below zero. Upon the college grounds nearly 1000 French

crab seedlings transplanted for budding experiment last spring are dead, root and branch. As is well known the apple trees propagated in the nurseries of the United States are generally from fruit seeds obtained from the cider mills of Vermont or imported from France. The seedlings from Vermont seed are regarded as much hardier than those from the French seed. Vermont seedlings have also proven tender on the College grounds. All the root-grafts mentioned have been on Vermont seedlings. The past severe winter will by no means be an unmixed disaster, for it will demonstrate to a number of nurserymen the necessity of obtaining a hardier stock for the apple than we at present possess.

MINNESOTA EXPERIENCE.

In September, 1898, the writer called on Peter M. Gideon, the originator of the Wealthy and Peter apples, the Martha, Lou and October crabs, and many other varieties of apples and crabs. Mr. Gideon began his experiments in fruit culture about 45 years ago and has grown and sent out many thousands of seedlings, chiefly of Siberian crabs. Mr. Gideon's fruit farm is situated near the shore of Lake Minnetonka, at Excelsior, Minnesota. In reply to a question, Mr. Gideon said: "If the ground is moist in the fall an ordinary apple seedling will not root-kill; if dry it will. But a Siberian crab root will come out all right and not root-kill on dry soil, while every American seedling root will winter kill. Even a Siberian root sticking out of the ground after digging, I have known to form a terminal bud and make a tree. A mulch is always good in the fall to prevent root-killing. I have often had hardy varieties in nursery with all the American seedlings root dead in the spring, but a single root which had come from the scion had survived the winter, and this pulled the tree through. We greatly need hardy stocks for the apple used in a commercial way. In my opinion, no hardier stocks could be grown than those of the iron-clad cross bred Siberian seedlings I have sent out."

THE PROBLEM BEFORE US.

It now remains to be settled by experiment which is the best form of Siberian crab for this purpose. Seed from Siberia is not yet commercially obtainable, but we are making efforts in that direction and hope for success. *Pyrus prunifolia*, the larger fruited crab, appears to be a hybrid of *Pyrus baccata* and *Pyrus Malus*, according to a recent observation of Prof. L. H. Bailey, who examined, while in Berlin a year or so ago, the specimen in the Willdenow herbarium, on which the species is founded. Fr. Th. Koeppcr (St. Petersburg, 1888) doubts the Russian or Siberian origin of *Pyrus prunifolia*; of this article the writer secured a copy while in Russia. The Transcendent is of this type and blights badly. Let us try the old Cherry crab and the small Red or Yellow Siberian, old trees of which, forty years old or more, are found scattered through the older parts of the west.

The true *Pyrus baccata* has deciduous calyx segments, that is, the old sepals at the "blossom end" of the apple fall off towards maturity. A Russian writer recommends especially *Pyrus baccata cerasiformis aurea* and *Pyrus baccata cerasiformis rubra*.

Experience has already shown that the cultivated apples makes a poor union in top grafting upon the Siberian crab. Nor will root-grafting on pieces of crab root be enough. No roots from the scion should be permitted. The stocks, for a fair test, should be handled much like the Mahaleb or Mazzard stocks for the cher-

ry in the eastern nurseries, setting the stocks in nursery first and afterwards, when established, budding or grafting the cultivated apples on them. It may largely do away with root-grafting in the winter, and hence make trees more expensive, but the method is worth trying. Perhaps both hybrids and pure seedlings will be too much subject to blight for this method to be successful in all localities. But certain it is, that the present method of growing apple trees on French crab or Vermont cider apple seedlings will not do for a considerable area of the Northwest in test winters.

It will take many experiments to fully settle the question. Let all who can try a few and report results.

THE COMING APPLE FOR MANITOBA AND ASSINIBOIA.

It was my intention to touch on other Siberian fruits, but this article is long enough now. In the words of the weather service: my "forecast of future apple growing in the extreme sections of the Canadian Northwest is that hybrids of *Pyrus baccata* with the hardiest Russians, such as Hibernial, Anisim, Charlamoff, Duchess, Repka Malenka, and Yellow Sweet, will be the chief, if not the only ones cultivated. All will be on *Pyrus baccata* stocks. In many parts of Manitoba and Assiniboia very likely the very hardiest Russians, such as Hibernial, will do well if on *Pyrus baccata* stocks. Although worth trying, it is doubtful if tender eastern or southern apples should be used in the work of crossing.

Professor Saunders has already done excellent work with this species at Ottawa and the apple we want may come out of it. Both parents should be as free as possible from blight. But whether the "coming apple" for the Canadian prairie Northwest will be pure Russians of the Hibernial grade of hardness, or hybrids of the latter with *Pyrus baccata*, all must, in all probability, be on *Pyrus baccata* roots to prevent root-killing. In closing, the writer wishes to express his firm belief that Manitoba and Assiniboia farmers will be able in time to grow their own apples for their home use; but they must not expect to compete with Ontario and other apple growing sections of Eastern Canada in the apple markets of England.

Beautiful Farm Home Surroundings and How to Make Them.

The Lieutenant-Governor of Manitoba offered in connection with the school exhibit at the Brandon fair, a silver medal for the best original essay on the above subject, written by a school pupil under 16 years of age. The prize was won by Miss Edna Parkin, and the following is her essay:—

To cultivate that part of our nature that loves beauty it is necessary that our surroundings should be such as to do so. Our wide extent of prairie, stretching for miles without a single tree, except those growing along the river banks, becomes tiresome, so a change of scenery is quite pleasant to the eye. We long for the day when we can look over the waving fields of golden grain, and see in its midst, dotted here and there, the farm home, surrounded by trees, instead of the mere farm buildings; when this is so it will seem more like what nature has intended. These are the permanent homes of the farmers and there is no reason why they should not be like this. It is not hard to make the farm beautiful, for nature has provided us with many pretty shrubs and trees.

There is always some place vacant around the farm house, and why not have

this place as beautiful as possible? There is no reason, but many farmers in thinking of wheat, have forgotten the beautiful side of nature. Now, since the farmers are becoming wealthier, and the excitement over wheat is not so great, they will very likely turn their attention to beautifying their surroundings.

The first thing to think about is the space you have to work on. After this is decided, a strong fence with gates is necessary. A wire fence is quite suitable, having an extra wire at the top and bottom, but a top rail painted adds much to the appearance of the fence. If the grounds are large, a straight pole fence will do nicely.

The selection of trees and their placing is the next thought. In choosing trees, care should be taken to see that they are young, hardy and of active growth. Among the trees attainable in Manitoba are: The Balm of Gilead, oak, elm, ash, white birch, Manitoba maple, dwarf birch, plum and some kinds of evergreen. The Manitoba maple is grown successfully from seed and serves very well as a shade tree. The trees should not be planted too near the house, or too close together. It adds greatly to the appearance of the grounds if a number of trees be planted near the back, so that they may be seen from the front. Another pretty feature of a picturesque grounds, if the house is set in from the road, is an avenue or drive running from the main road to the house. On either side of the driveway may be planted rows of maples or a hedge of maples, which looks very pretty. An arbor is a very pretty ornamentation of the farm home. It is made in a secluded spot in among the trees. Some place on the lawn a summer house covered with Virginia creeper, wild grape, morning glory, hop or wild cucumber, looks very pretty indeed. If no better can be had, a summer house made of four upright poles placed in the ground, braced at the top, and having four shorter poles meeting in a peak, for a roof, is easily made, and serves the purpose nicely. Strings or wire netting should then be added for the vines to run on. The lawn looks pretty separated from the back yard or garden by a hedge, which, if intended for ornament, may be made either of caragana or wild roses, which, when in bloom, look beautiful. A house with a verandah, with pines growing on it, adds much to the appearance of the grounds.

There are many different kinds of shrubs which look very beautiful and will grow in Manitoba. Of these there are many different kinds of lilac, flowering currant, Tartarian honeysuckle, snowballs, broom caragana, Japan rose, and eight varieties of spiraea. While there are others grown for their fruit or foliage. These shrubs look very pretty placed here and there over the lawn.

For want of space, people in the city sometimes haven't a lawn, but in the country there is plenty of room for one. The lawn, with little labor and expense, can be made one of the most striking ornamentations of the surroundings. For a lawn, the prairie is broken, and made into a good seedbed, and planted with grass seed. It is nice if there is room for a croquet lawn, but it is nicer if there is room for a lawn tennis court, for there is no reason why this game may not be played in the country as well as in the city.

A rockery has a pleasant effect, and climbing nasturtiums look pretty planted in them, or in a shady place; wild fern serve the purpose. As the summer season is short in Manitoba, fast growing flowers are preferable. It is best to select bright varieties, and if a bright garden is wanted the bed should be planted with the one kind of flowers, with small

flowers for borders. In case it is hard to get shrubs, flowers may be used instead. Of these there are the giant spider plant, double sunflower, castor bean, and sweet peas, which are planted in trenches, and when a few inches above the ground, the earth should be mounded around the plants, so giving the roots depth. When the plant begins to run supports should be put up. Caliopsis is a pretty bushy flowerer and grows two feet high.

A vegetable garden is not only profitable but adds a more home-like appearance to the grounds. It should be well attended, and not let go to waste. If the garden is of an oblong shape it can be cultivated with a horse, so labor with hands is not necessary.

A Forestry Officer.

In the debates in committee a member of the Dominion Commons severely criticized the Director of the Experimental Farm for planting so many trees on the farm. It was, he said, just making a park of the farm for the benefit of the citizens of Ottawa. The same policy has been followed on all the farms. We do not think this a mistake. It is a wise policy—an object lesson in beautifying the home and the farm too. It also shows how well and quickly trees of various kinds will grow and points the way for more extensive work in planting for forest cultivation. In this connection we are pleased to note that the Dominion Ministry has appointed a special officer to look after the timber on Dominion and Indian lands. Mr. Stewart, who will have charge of this important work, will be required to report as to what timber should be preserved, what should be cut for lumber, railway ties, etc., what areas should be reserved permanently at the source of streams, what precautionary rules should be adopted and enforced to mitigate as much as possible the destruction of the forests by fire, and to attend to the general work connected with the office.

This is a move in the right direction and we only hope the government will be in thorough earnestness in this, as though Canada has a very large area of forest, large areas are being cut every year and no provision made for reforestation again.

In Germany, especially, timber land cut over is at once replanted and in a few years a new crop is well on the way to market. This kind of work should be taken up by the Dominion Government and timber limits that have been cut over, those burnt over should be replanted, especially in districts where the soil is of such a nature as to forbid farming methods.

At the Esher Flower Show one of the exhibits, not for competition, was a single stick of rhubarb, grown on the Duchess of Albany's estate at Claremont, which measured nine inches in circumference, and was surmounted by a huge leaf 54 in. across.

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H.L. PATMORE, Brandon, Man.



Thy Burden.

To every one on earth
God gives a burden to be carried down
The road that lies between the cross and
crown.
No lot is free—He giveth one to thee.

Some carry it aloft,
Open and visible to any eyes,
And all may see its form, and weight and
size ;
Some hide it in their breast, and deem it
thus unguessed.

The burden is God's gift,
And it will make the bearer calm and
strong ;
Yet, lest it press too heavily and long,
He says, "Cast it on me, and it shall easy
be."

And those who heed His voice
And seek to give it back in trustful
prayer,
Have quiet hearts that never can despair,
And hope lights up the way upon the
darkest day.

It is the lonely load
That crushes out the life and light of
heaven,
But borne with Him the soul restored,
forgiven,
Sings out through all the days her joy
and God's high praise.

Marianne Farningham.

Home Life for Girls.

By Mayflower, Solsgirth.

A question which I am sure every farmer's wife will be glad to see taken up, is the growing tendency among our girls to leave the farm and teach school or go into a store or office. The responsibility for this state of affairs rests, to some extent, on the mothers themselves. Considering their household duties as drudgery and rather degrading, too—they unconsciously instil the same idea into the minds of their daughters. This is a great mistake, and is, I believe, rapidly becoming recognized as such. Domestic service is becoming more and more popular, and will shortly be considered quite as important as any other science, and justly so. Certainly the proper management of a house and the composition of food, is of most vital importance, and a girl who has no practical knowledge of these things has no more right to marry than has a man who is incapable of providing for a family. Perhaps some one will say, "Oh, well, if he wants a house-keeper, he would better hire one," but that does not at all dispose of the question. When a man marries he wants a "home-maker," and no girl can fill that position unless she has some knowledge of housekeeping. Who has not seen and commiserated the man who, although he provides well for his family, has, through the incompetency of his wife, no comfort in his home?

Every one should have as much education as possible and a life-certificate is a good thing for a girl to possess, but every girl, when she goes into the world to earn a living, loses a little of her womanliness, and certainly misses the opportunity to practice housekeeping. Probably the modern girl will assert that

marriage is not the end and aim of her life, but no one can deny that it is, has been, and always will be, the natural sphere of woman.

One side of the question which I am afraid is seldom considered by a girl, is the fact that it is her duty to remain at home, when she is needed there, as she usually is. Even if competent helps were obtainable, which it is not in this country, no other girl can take the place of a daughter and sister in the home. She, more than any other member of the family, has the opportunity of making home attractive. By doing her work well and cheerfully, she becomes a blessing, not only to the mother, but to the father and brothers as well. By taking an interest in the outdoor work, as well as that indoors, she will find much real pleasure, and will establish a bond between her brothers and herself. If she will cultivate the art, too often neglected, of reading aloud, she will have an inexhaustible source of pleasure for all—one that will be of much more benefit to all the members of the family than the much overrated one of being able to "play." Who can estimate the knowledge and pleasure to be derived from reading, especially together, the greatest thoughts of our greatest writers? Of course, during the summer, there is little opportunity to either read or listen, but for at least five months of the year there are long evenings to be filled.

Some girls have the idea that they are not appreciated in their homes, but if they will honestly examine themselves and their conduct, they will likely find the fault is in themselves. Emulate the example of the immortal Mark Tapley, "be cheerful," and the more adverse the circumstances the more credit there will be in it.

I am aware that a great attraction to most girls in going into the world is in being "independent," but there is something radically wrong when a girl does not feel independent in her own home. A school-teacher, with the numerous parents to please, or a girl in an office or store, at the mercy of her employer's whims, surely cannot be said to be "independent." As for the compensation, it is a well-known fact that the majority of girls in stores and offices have a hard time to make ends meet, and school-teachers, except a few who have "grown grey in the service," have not, as far as I have been able to observe, more of this world's goods than the average farmer's daughter. Perhaps the single exception to this rule, is the possession of a bicycle, which many farmers consider an expensive luxury for their girls, but as nearly every country girl has a horse, which she can use at any time, regardless of the state of roads or weather, this deprivation can scarcely be considered as such.

Certainly I would advise girls, not only farmers' daughters, but others also, to stay in the home whenever possible, and leave the wage-earning to those who are obliged to do it, thereby benefitting the latter also. If they have not quite so much money to spend, nor, in a certain sense, such a "good time," they will be more than recompensed by the knowledge that, when the time comes for her to have a home of her own, the old proverb will be slightly altered and "her parents arise up and call her blessed; her husband also, and he praiseth her."

"What quantities of grass you do keep here, Miss Sue. Nice place for a donkey to get into," said a facetious fop to a young woman who had ornamented her sitting room with dried grasses. "Yes, just make yourself at home," was the quiet reply.

Dora's Investment.

"Ten dollars, father! Just think of it!" and Dora Mansfield took the new, crisp ten-dollar bill out of the envelope, and held it up for her father's inspection.

"I'm real proud of you, Dora. Somehow I had an idea that you would get the first prize, though I did not say anything about it to you."

The father was hoeing potatoes in the lot, and as he spoke he laid down his hoe, took off his wide-brimmed hat, and fanned himself with it, for the day was very hot.

"Does mother know it, child?"

"No, father, I saw you up here, and I came cross-lots to tell you. I will run back to the house now and tell mother."

Mrs. Mansfield was taking the fresh butter out of the churn, and she looked up to see her daughter's round, smiling face looking through the kitchen window.

"I got it, mother—the prize, I mean," and again the ten-dollar note was brought out to view.

"Why, Dora Mansfield, I can hardly believe it. How glad I am! Does your father know it?"

"I just came from the potato lot. He is as happy as you are over it, mother."

"Well, child, you deserve it. Walking three miles every day to school, and three miles home again every afternoon, and not missing a single day or being tardy during the whole year; and you don't make any fuss about it, either."

Dora ran upstairs to take off her white dress. It had been made out of the good parts of two out-grown dresses, but nevertheless, was neat and pretty. The other girls had new dresses, but Dora was very independent, and felt as happy in her combination dress as they did in their new ones. Her great regret had been that her father and mother could not go and hear her read her essay, and see and hear all the interesting things that are sure to come on the last day of school.

Young people are not apt to appreciate all the sacrifices parents make for them. But Dora was an exception to the general rule, she did appreciate her good father's and mother's endeavor for her. She had already planned how she would use that ten dollars.

When the family were all seated at the table, a younger brother said: "What are you going to buy with your ten dollars, Dora?"

"Nothing," replied the sister. "I'm going to give it to mother to go and make a visit to Aunt Ellen's."

"You shan't do any such thing!" exclaimed Mrs. Mansfield. "You're going to buy a new winter cloak with that money."

"Mother," said Dora, in a gentle tone of voice, "you are going to see Aunt Ellen. I will keep house, and you must have an outing and a rest."

"You can't make the butter, Dora, and there is a churning every other day."

But Dora carried her point. Mrs. Mansfield was on the road to her sister's the very next week. They had not seen each other for fifteen years, notwithstanding they were only two hundred miles apart, for the sum of ten dollars could not be spared from the family income to take such a journey, and Aunt Ellen had inflammatory rheumatism and could not go to her sister. Dora knew what a joy it would be to both those sisters, who were all there were left of the family, to see each other again; and her mother, she knew, was sadly in need of a change of air and rest. Dora's sister Nell, eight years old, entered into the spirit of the occasion; she was very efficient in helping with the work. And Judge Seely's wife, who lived in the large house on the

hill, said Dora's butter was as good as her mother's.

When Mrs. Mansfield came home she seemed so bright and told so many interesting incidents about her journey and what good times she and her sister had had, that the children were delighted to hear it all. A week after her return she said to Dora: "I didn't want to say anything about it, but before I went to Aunt Ellen's I felt that I could not get on another day. My work seemed to drag, drag, drag; but now I feel like a new person, and I am so thankful and happy that I have a daughter who is very thoughtful of me and my happiness."—National Stockman and Farmer.

A Lecture on Anatomy.

"Hello, Johnny! Johnny Knapp, wait a minute—I've so'thin' 'portant to tell you."

"Well, hurry up, Joe! I've got to be home by five o'clock with the groceries. Now you come with me and we'll talk as we go along; for if I don't get back in time Peninat will give me Jesse."

Joe Green was quite out of breath with running but soon recovered enough to say the "so'thin' 'portant" which was this:

"Say Johnny, do you want to go to a lecture to-night? I have two tickets, 'cause pa's one of the trustees of the church. Professor Larkins is goin' to have a reg'lar show there!"

"A reg'lar show out of a lecture? I don't see how that can be! I don't want to go to no old lecture as dry as salt mack'rel—I don't undersand them, and I get sleepy. What's he goin' to talk about?"

"Oh," said Joe, reassuringly, "this will not be dry! Why, it's goin' to be on anatomy; and, best of all, he has a skelicon. Haven't you seen the bills? They say the skelicon is articulated. Now, I don't see how that can be, if it's a sure enough one! What do you say 'articulate' means?"

"Well," replied Johnny, "'articulate' means to utter articulate sounds—to make the elementary sounds of a language."

"That's just what I thought, and I'm bound to go to find out how a skelicon can make sounds! you'll go with me, won't you, Johnny?"

"I don't know. I must see pa first, of course. He don't like me to be out late, alone."

"Oh, as to that, I'll go home with you and find out if he'll let you go, and after the lecture stay all night with me. I tell you, Johnny, it's goin' to be a bang-up affair! We'll not get tired. The professor's goin' to 'zamine people's heads, too!"

"'Zamine people's heads!" repeated Johnny, for the first time partaking of his friend's excitement, and looking bewildered as visions of soap and towels, and sometimes fine-toothed combs flitted through his mind.

"Why, don't you know," explained Joe, "our heads are like the earth, all over hills that are called bumps, and by their size the Professor can tell how smart people are."

"I don't believe in any such nonsense!" said Johnny emphatically. "My head ain't bumpy 'less I run against so'thin' and then I don't think the bumps would tell how smart I was. I think it would show I'd been smarter if I hadn't. I b'lieve pa thinks there's so'thin' in this. 'cause one day he said my bump of combatness was too big when I wanted to whip Ben Jones for callin' me Jackey Sleepy, 'cause my name's John Knapp."

The groceries were bought and delivered, and as soon as Mr. Knapp came

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home from his office two excited boys interviewed him.

Amusements were few in the village, and Mr. Knapp was always glad when there was anything wise and morally safe for his motherless little boy to attend; so his consent was readily given to go to the lecture and home with Joe afterwards.

When tea was over the two boys started for Joe's home, happy in the thought of the coming treat, and too good-natured to be provoked into a retort when their persecutor, Ben Jones, called out after them.

"There goes little Josie Green,

And wherever he is seen

You're sure to see Jackey Knapp

If he can leave his old pap."

Ben was a bad boy that Johnny and Joe would not associate with; hence the persecutions.

The doors of the church would not be open to the public for an hour or so, and this gave Johnny time to reflect on the advisability of spending a night away from his father. After a short silence he said, reflectively:

"Joc, I believe I'll go home after the lecture. Pa has nobody but the house-keeper to talk to in the morning, and she's not very good company and is as cross as the forked roads most of the time. I would not see him till to-morrow night, and I would have to go to school from here. Ask your mother to let you go home and stay with me."

After a little argument, and finding that no amount of persuasion could induce Johnny to change his mind, Joe went to his mother and got her consent to the change of programme.

So, with the understanding by Mr. Knapp that both boys were to stay at Green's over night, and Mrs. Green thinking they would be safely housed at Mr. Knapp's, the twain started for the lecture.

They were early, but there was plenty to interest them until the professor would begin. There were charts representing the human frame, plaster busts, a skull, and most conspicuous of all, a skeleton.

When the lecture began the boys were quite interested, for they could understand the meaning of most that was said. The phrenological examinations, especially by the pairing off of young ladies and gentlemen suited to marry each other, were very amusing, as they knew all the mated couples; and when Albert Ray was selected as a suitable husband for his sister Mary Jane they giggled right out, at which Professor Larkins looked severely at them, causing them to shrink into as small a place as possible in the capacious pew that they occupied alone.

At last they began to grow tired. They had listened in vain for the skeleton that hung in front of the pulpit to articulate. There it was, hideous to look at, yet strangely attractive to them. They were half afraid of it, even with all the people around them. They held a whispered consultation about going home, and even rose to their feet to start; but the Professor

gave them another sharp look and said with a terrible frown, "People will please be seated and keep quiet, till the lecture is over, and not disturb the intelligent part of the audience who came here for instruction!" As no one else had moved they knew he meant them, and immediately sat down.

They kept their eyes steadfastly on the horrid shape that swayed in a breeze that came through the open windows.

The pew had a door that shut it off from the aisle, and they snuggled up close to this, leaning against each other, and soon they were lost to all sights and sounds in a profound slumber.

The lecture closed and the Professor's property was left for another entertainment on the succeeding evening. In the bustle and confusion of leaving no one saw the sleeping boys, and they slept on serenely and sweetly.

About two o'clock they began to grow uncomfortable. The moon had risen and threw a pale sepulchral light through the church; the windows had been closed below and lowered at the top, and a strong breeze had been blowing for some time. The rattle of charts and rustle of paper finally caused the boys to start up wide awake.

Where were they, and what hideous sights were before them!

The first thing that they saw was a skull, grinning at them. Queer, fantastic shapes were everywhere. Turning their heads at a rattling sound, there swung the skeleton! It was moving and making a squeaking noise. Surely it was about to articulate! They had been disappointed that it failed to do this during the lecture, but they had no desire to wait to hear it now. They jumped to their feet, and as if with one motion, sprang toward a window. Johnny reached it first and crack, crack, went the glass flying in every direction as he landed on his feet in the street.

Joe did not go through the hole that Johnny had made, but went through another pane of glass and immediately came tumbling after his friend. But Johnny did not wait for him. Each boy started as fast as he could for his own home.

It was a good night for glaziers. Peninat was awakened by a violent ringing of the door-bell, but before she was fairly out of bed, crash went one of the windows, and without fully arousing his father in rushed Johnny, tumbling into bed with all his clothes on, even to his shoes. He was not a very comfortable bed fellow as he hugged up close to his parent, and when seized with a new fit of trembling, bringing his stout shoes scraping down along his father's shins, he was brought to his senses a little by the stern paternal voice, which said, "John, get out of this and undress! I'd as lief sleep with a bag of augers as with you with your button shoes!" He crawled out and made due preparations for sleeping. At last his father got an understanding of the trouble out of the confused jumble of

skulls, ghosts, articulated skeleton and church, and after much soothing and petting Johnny fell into a troubled sleep.

About the same scene was enacted at the Green's.

Each family had, by the arrangement of the boys, been at perfect ease, at their non-appearance.

It was some time before Joe and Johnny entirely recovered from their fright, and the other boys were quick to associate the court-plaster-stripped faces with the broken glass, and gradually the story leaked out, and one person's bumps of combativeness were aroused by a mere mention of skeleton; and when at school the word "articulate" was in the lesson to be defined, there was a significant giggle from all but two boys, and at these every eye was directed, to be gratified by lowering and vermillion faces.

—Arthur's Home Magazine.

Made in Germany.

By Uncle John.

Such is the brand that by British law must be put outside every case containing the manufactured products of the "fatherland" imported into England. It is not necessarily a proof of inferior quality, but is meant to prevent such articles being sold as the products of British labor! There is, however, one German product which is by all skilled critics admitted to be of very superior excellence, and that is the German "house frau." It is only by the superior skill and management of their wives that the middle class householders in that country of small incomes can manage to live. They contrive to live, and keep up decent appearances only by the tact, economy and perfect management of their house and household expenses. In the American Kitchen Magazine a travelled lady gives her impressions of what she saw in the kitchen of one house where she was a guest. She was surprised to find in that kitchen no fewer than four kitchen maids, all ruled by a big sharp-voiced chief cook, who ordered them about as she pleased. She noticed that three of the girls, though doing the same class of work as the fourth, had looks of greater intelligence and refinement. It turned out that they were the daughters of people very well to do, who came every day for six months and paid suitable fees for the instruction in practical cookery they got from the fierce tempered, but very skilful cook, whose mandates they never thought of calling in question.

They begin by preparing the vegetables; each one is responsible for the cleaning of her tools and table; and they rise to the height of dessert-making and simple confections. They also learn to buy, and to choose cuts of meat. The proper knowledge of all these things, emphasized by practice, is considered a most notable part of a young woman's education. She goes into her husband's house as fully equipped to carry on her side of the establishment as he does, and this is one reason why domestic disturbances in Germany are comparatively rare.

Girls of humbler social pretensions gather experience in a different way. The daughters of two friendly families are exchanged for a specified time, from six months to two years, and do all the necessary house work, but in the evenings take their place as members of the household in which they live. It is the height of a young girl's ambition to acquire a reputation for skill and versatility in every possible variety of household work and management.

It is not improbable that the next gen-

eration of young men in this country may be forced to import as helpmeets house frau "made in Germany," the rapid rate at which young "ladies" in this country are being educated as sales ladies and type writers making it extremely unlikely that a few years after this, there will be any girls so homely as to submit to the humdrum kind of training that will qualify them to keep house and bring up a family for husbands of ordinary means. House work is not a part of the programme of the girl of the period.

I am one of those who believe that in the article of homebuilding, with all its accessory comforts, we have no need to go to Germany for models. I have seen by the hundred wives and mothers in the pioneer homes of the new west, who to my mind presented a loftier ideal than even Germany can produce. In the art of making the most of very limited means, and giving a homelike air to even a confined log cabin, we have matrons scattered over all the new west, whose patient ungrudging toil has done as much, sometimes even more than their menfolks, to build up their present prosperity. Not mere housekeepers are these brave women whom I for one delight to honor. They are also mothers in Israel, a far higher honor. If only their daughters and other people's daughters around could see their way to walk in their tracks, we menfolks would never need to sigh for the best helpmeets ever "made in Germany."

Worry Will Kill.

Modern science has brought to light nothing more curiously interesting than the fact that worry will kill, says Pharmaceutical Products. More remarkable still, it has been able to determine from recent discoveries, just how worry does kill.

It is believed by many scientists who have followed most carefully the growth of the science of brain diseases that scores of the deaths set down to other causes are due to worry, and that alone. The theory is a simple one—so simple that any one can readily understand it. Briefly put, it amounts to this: Worry injures beyond repair certain cells of the brain, and the brain being of the nutritive centre of the body, the other organs become gradually injured, or a combination of them arising, death finally ensues.

Thus does worry kill. Insidiously, like many another disease, it creeps upon the brain in the form of a single, constant never-lost idea, and as the dropping of water over a period of years will wear a groove in a stone, so does worry gradually, imperceptibly, but no less surely, destroy the brain cells that lead all the rest—that are, so to speak, the commanding officers of mental power, health and motion.

Worry, to make the theory still stronger, is an irritant at certain points, which produces little harm if it comes at intervals or irregularly. Occasional worrying of the system the brain can cope with, but the irritation and reiteration of one idea of a disquieting sort the cells of the brain are not proof against. It is as if the skull were laid bare and the surface of the brain struck lightly with a hammer every few seconds, with mechanical precision, with never a sign of let up or the failure of a stroke.

Just in this way does the annoying idea, the maddening thought that will not be done away with, strike or fall upon certain nerve cells, never ceasing, and week by week diminishing the vitality of these delicate organisms that are so minute that they can only be seen under the microscope.

To Those Who Fail.

Courage, brave heart, nor in thy purpose falter;

Go on and win the fight at any cost; Though sick and weary after heavy conflict,

Rejoice to know the battle is not lost.

The field is open still to those brave spirits

Who nobly struggle till the strife is done;

Through sun and storm, with courage all undaunted,

Working and waiting till the battle's won.

The fairest pearls are found in deepest waters;

The brightest jewels in the darkest mine;

And through the very blackest hour of midnight

The star of Hope doth ever brightly shine.

Press on! press on! the path is steep and rugged,

And storm-clouds almost hide Hope's light from view,

But you can pass where other feet have trodden;

A few more steps may bring you safely through.

The battle o'er, a victor crowned with honors,

By patient toil each difficulty past, You then may see those days of bitter failure

But spurred you on to greater deeds at last.

The Eating of Fruit.

Fruit is a necessary and natural food. Insects, animals, children hunger for it. The small boy in early summer, in his impatience, will not wait for it to ripen, but will run the risk of colic pangs, not to mention maternal punishment, in his eagerness to obtain it. The food of the wise man is fruit in plenty, with milk, rice and eggs. The children of the city alleys, with their pallid faces and inert bodies, do not suffer from lack of fresh country air alone. They need fruit. They are suffering from incipient scurvy, the one and only remedy for which is fresh fruit. Take them into an old apple orchard in harvest time, give them the citizenship of the trees, and see how quickly rosy cheeks of the apples will be transferred.

Captain Cook prided himself more on losing only one man during his long voyage of discovery than on the discoveries he had made; and he tells of the invaluable aid he had obtained in the "rob" of lemons and oranges for preventing or curing scurvy. Lemon juice is of well-known use in the cure of rheumatism. There are in Germany many institutions where the fruit cure is employed with remarkable success in cases of rheumatism, anaemic and digestive troubles. Fruit is rather a necessary ally than an independent food. Its anti-scorbutic action keeps the body healthy; and the sugar it contains is readily digestible. With meats that are fatty it has been associated from time immemorial—apple sauce with roast goose or pork, and more recently cranberry sauce with turkey. The fatty properties of meat are, Addison says, "corrected" by the fruit. Let no fruit grower be alarmed at the vast development that has recently been made in his industry. There is no fear that more fruit will be produced than the people can consume.

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God Knows Best.

Sometime when all life's lessons have been learned
 And sun and stars forever more have set,
 The things which our weak judgments here have spurned,
 The things o'er which we grieve with lashes wet,
 Will flash before us out of life's dark night,
 As stars shine most in deeper tints of blue,
 And we shall see how all God's plans were right,
 And how what seemed reproof was love most true.

And we shall see how while we frown and sigh,
 God's plans go on as best for you and me,
 How when we called He heeded not our cry
 Because His wisdom to the end could see,
 And even as prudent parents disallow
 Too much of sweet to craving babyhood,
 So God, perhaps, is keeping from us now
 Life's sweetest things because it seemeth good.

And if some time, co-mingled with life's wine,
 We find the wormwood and rebel and shrink,
 Be sure a wiser hand than yours or mine
 Pours out this portion for our lips to drink,
 And if someone we love is lying low,
 Where human kisses cannot reach the face,
 O, do not blame the loving Father so,
 But wear your sorrow with obedient grace.

And you will shortly know that lengthened breath
 Is not the sweetest gift God gives His friend,
 And that sometimes the sable pall of death
 Conceals the fairest boon His love can send.

If we could push ajar the gates of life
 And stand within, and all God's workings see,
 We could interpret all this doubt and strife,
 And for each mystery could find a key.

But not to-day. Then be content poor heart,
 God's plans, like lilies, pure and white unfold,
 We must not tear the close-shut leaves apart,
 Time will reveal the calyxes of gold.

And if through patient toil we reach the land
 Where tired feet with sandals loose, may rest,
 When we shall clearly know and understand
 I think that we will say—"God knew the best."

—Selected.

Think Before You Strike.

By Request.

Think before you strike any creature that cannot speak. The following little story is quite true. When I was young I worked for a farmer, and was given a span of horses to plow with, one of which was a four-year-old colt. The colt, after walking a few steps, would lie down in the furrow. The farmer was provoked and told me to sit on the colt's head to keep him from rising while he whipped him, to

break him of the notion, as he said. But just then a neighbor came by. He said, "There's something wrong here, let him get up and let us find out what is the matter." He patted the colt, looked at the harness, and then said: "Look at this collar; it is so long and narrow, and carries the harness so high that when he starts to pull it slips back and chokes him, so that he can't breathe."

And so it was, and but for that neighbor, we would have whipped as good a creature as we had on the farm, because he lay down when he could not breathe.

Always remember that all animals are dumb and cannot make their wants known. Think before you strike any creature that cannot speak.—Ex.

In the Days of Green Corn.

That the sweetest and tenderest varieties of corn are invariably the least prolific may be a good and sufficient reason for gardeners growing inferior sorts. Certain it is, corn is the one vegetable the town housewife cannot obtain in perfection, but there surely is no reason why the farmer's garden should not afford the choicest varieties for weeks in succession.

Then again, few cooks appreciate the possibilities of corn, but go thoughtlessly on in the old rut, as though it must either be boiled on the cob or else cut off and stewed, when in truth there are a score or more of ways in which it can be served, and the winter's supply can be canned at home without the least danger of failure.

Boiled Corn.—Corn is almost invariably boiled too long. For young, tender corn, ten minutes after it begins is ample, and every minute of boiling after that detracts from its goodness. Then again, corn should always be boiled in clear water; salt shrivels up the grain, making it tough and indigestible. Remove the coarse outer husks, turn down the inner ones, pull off the silk, replace the inner husks, tie the ends together with a cord, and plunge in boiling water at once. After boiling, remove the husks and serve wrapped in a napkin.

Baked Corn.—Prepare as for boiling, lay closely together in a baking pan, add a little boiling water and cover closely; stand in a quick oven and after it has cooked ten minutes remove the cover, turn the corn over and continue baking uncovered, and turning often for five minutes after the liquid has evaporated, and the husks dried out.

Roast Corn.—Prepare as above, lay the corn on the grate in a quick oven and bake until it browns. Corn roasted in this way lacks the peculiar flavor of that roasted in hot ashes, but it is an excellent substitute.

Corn Soup.—With a sharp knife score down the centre of the grains of six ears of corn, and with the back of the knife scrape out the pulp; cover the cobs with cold water and simmer, closely covered, for half an hour; then strain, add the pulp to the liquid and boil ten minutes. Bring a pint of milk to a boil; rub one level tablespoonful of flour into a tablespoonful of butter, add gradually three tablespoonfuls of the hot milk and stir smooth; pour it into the hot milk and stir constantly until it thickens and is smooth. Season the corn with a teaspoonful of sugar and half as much salt, turn in the prepared milk, stir well, pour into a heated soup dish, dust a little pepper over the top and serve at once with croutons or thin slices of graham bread and butter.

Corn Oysters.—To one pint of grated young corn, add half a teaspoonful of salt

and a dash of cayenne, the well-beaten yolks of two eggs, and three tablespoonfuls of flour into which one-fourth of a teaspoonful of baking powder has been stirred; add the stiffly beaten white of the eggs, stir carefully, and fry at once. Rub equal parts of butter and lard together; heat a perfectly clean pancake gridle, spread with fat, drop the batter in spoonfuls, making them as near the shape of oysters as possible and nearly an inch thick, and brown on both sides.

Corn Omelet.—Grate half a cupful of young corn, add a little salt and pepper, the well-beaten yolks of two eggs and two tablespoonfuls of milk. Beat the whites of the eggs to a stiff froth, fold them into the corn mixture and fry at once. Pour into a buttered frying pan, be careful not to burn in browning it, dust a teaspoonful of sugar over the top, fold one half over the other and serve at once on a heated platter.

Corn Pudding.—Score, and press out one pint of corn pulp, season with salt and pepper and a teaspoonful of sugar, and pour into a buttered mould. Make a soft dough of one and one-half cupfuls of flour, a pinch of salt, one teaspoonful of baking powder, and one teaspoonful each of butter and sugar; roll to the size of the pudding mould, lay it over the top and bake in a moderate oven. When ready to serve, run a knife round the edge, turn corn-side upward on to a deep plate and serve with plain or whipped cream.—Elizabeth Moreton in Country Gentleman.

Care of Women's Hair.

To keep the hair in good condition it is absolutely necessary not only to brush it with clean brushes and with great regularity, but certainly once in two weeks to give it a thorough shampooing, so that every particle of dust may be removed from it. The soft, fluffy look of the hair, and its beautiful gloss after being shampooed, shows how grateful it is for the treatment given it. Experience, though sometimes a tiresome teacher, has taught that the best way to cleanse the scalp and the hair is to use very hot water made "soap-suddy" with tar soap; use a nail-brush, upon which the soap has been rubbed, to scrub the scalp thoroughly, and after every part of the scalp is washed, rinse the head and hair with baths of water; the first being the temperature of that used for washing the hair, and the last ordinarily cool, the baths between having been gradually graded.

To get such a bath for the head it is only necessary to hold one's head over the basin and have the water from a small piteher poured over it. Each bath necessitates the wringing out of the hair until it is quite free from soap-suds, and until the water is as clear as before it went over the head. When the hair is shampooed, it is wise to put on a loose wrapper that cannot be injured by either water or soap.

I do not advise the use of a fan in drying the hair, as it has been found to give many women severe colds; nor do I recommend the loose Turkish towelling for rubbing the hair, since it is apt to leave fluffs of white cotton all through it; but for the first rubbing use a thick, hard Turkish towel, and after that rub the hair and the head with ordinary towels which have been made hot for the purpose.

You will be surprised to see how quickly and comfortably the hair dries. Do not put the hair up until perfectly dry, or it will remain damp for a long time and have a close, mouldy, and altogether undesirable smell about it. Use as few hairpins as you possibly can.—Ladies' Home Journal.

That Evening in the Lane.

She stood beside the well
 With her pitcher in her hand,
 Her sunny hair was fastened
 By a bright crimson band;
 She looked so sweet and bonnie,
 That I could scarce refrain
 From kissing her and blessing her
 That evening in the lane.

I plucked a white rosebud
 From a bush growing nigh;
 Allow me to present it,
 So gallantly said I;
 Demurely she thanked me
 And still I thought I'd fain
 Have kissed her and blessed her
 That evening in the lane.

The sun was going down
 Ere I drew the water clear,
 The faint scent of the hay new mown
 Came sweetly on the air.
 I felt how fortunate I was
 Her lasting love to gain
 And I kissed her and blessed her
 That evening in the lane.—I. G. M.

How to Make Durable Soap Bubbles.

If one wishes to make soap bubbles which will last several days, prepare the following mixture in a room where the temperature is not lower than 65 degrees. Dissolve at a gentle heat one part of castile soap, previously cut into thin shavings, in forty parts of water (distilled if possible), and, when the solution is cold, filter it. Having done this carefully, mix in a bottle by violent and persistent shaking a little at a time two parts of glycerine with three parts of the above-mentioned solution of soap, and allow it then to stand where it will not be in the way of dust. The liquid, which is at first clear, soon becomes turbid. After a few days a white precipitate will have risen to the top of the liquid, leaving the remainder clear. Draw off the clear portion with a syphon (a bent tube) and keep it for use. To use a syphon it is necessary first to fill it and then plunge the shorter arm into the liquid to be drawn off. This mixture is called glycerine liquid. The film it forms is of such strength that a bubble four inches in diameter may be kept in the open air of a room for three hours, if supported by a ring of iron or bone an inch and a half in diameter or if allowed to rest on some soft woollen fabric. If placed under a glass shade it may last as long as three days. If filled with tobacco smoke it looks very much as if it were solid.—Boston Evening Transcript.

To be Avoided.

Whosoever finds that she is developing any of the following symptoms may know that she is on the road to that undesirable state known as crankiness:

- Too orderly habits.
- Great fastidiousness in regard to food.
- A spirit of investigation in regard to dust.
- The conviction that reiteration is argument.
- A constant suspicion that what the servants say is not true.
- Promptness to attribute the worst possible motives to everyone's actions.
- Exclusive devotion to any one school of thought, literature, art or music.
- Impatience when the trolley-cars are not in sight whenever she wants them.

A Lady Doctor on the Girl of To-day.

Dr. Arabella Kenealy, in the April number of the Nineteenth Century, writes in an interesting manner on the physical development of the present-day girl, contrasting her, not altogether to her advantage, with the girl of a generation or two back. While admitting that the out-door life she now leads, and her indulgence in most of the sports and games which at one time were regarded as peculiar to the male sex, have exerted a very beneficial effect upon her physique and health, Dr. Kenealy still thinks that in many respects the girl of the period is inferior to her sister of fifty years ago. The writer, referring to an up-to-date girl, concludes an able article as follows:—

"She no longer preserves and brews. She no longer weaves and fashions. Her children, are nursed, fed, clothed, taught and trained by hirelings; her sick are tended by the professional nurse, her guests are entertained by paid performers. What truly remains which may be called her duties? What is left to her indeed but boredom? Let me not be regarded as merely bringing a grave indictment against the sex in which I have every sympathy by virtue of belonging to it, and least of all let me be understood to deprecate the right of every woman to be educated and self-supporting. All that I urge is that what she does she shall do in a womanly way, striving against disability to reserve her womanhood as being the best of her possessions. All that I would warn her against is the error into which she has been temporarily led, the error of supposing there is any nobler sphere than that of bearing and training fine types of humanity, seeing that this is the sole business wherewith the mightiest

forces of the universe and evolution are concerned. But these things to be wholly worthy must be intelligently done. The reign of mere instinctive motherhood is waning; the era of intelligent motherhood approaches. And the first care of intelligent motherhood will be to see that none of these powers which belong to her highest development, and through her to the highest development of the race, shall be impoverished, debased, or misapplied. And in that day she will have ceased from regarding muscle as her worthiest possession."

A Green Looking Couple.

They became acquainted on one of the ferry-boats while riding just for the sake of keeping cool. There happened to be a bridal couple billing and cooing near them, and the old gentleman from Grand Rapids had an internal convulsion of laughter which lasted so long that he felt called upon to explain. "That recalls my own wedding trip," he began, between chuckles, "it was so different. I suppose I had about as tough an experience as ever fell to the lot of a new and bashful husband. I lived in New York state and was married there. Just between ourselves, I won the prettiest and best girl in the county. We had a fine wedding and a great send-off when we left for our trip. But then the trouble began. At the very first station people came in, studied the appearance of each one until they reached us, looked startled and hastened out, the men rushing in a group to the telegraph office.

"At the next depot there was the same invasion, some big-voiced man yelled: 'That's them!' and then there was a scramble for the telegraph window. By this time my new wife was very nervous and I was very mad. At the next stop the rush was still larger, we were carefully looked over and the usual stampede followed. I grabbed the hind fellow in the chase, whirled him around, caught him by the throat and demanded an explanation. He couldn't speak, so he gave me a handbill. It offered a reward of \$100 to anyone discovering and reporting a youthful 'green-looking' couple answering our description. We hid for the rest of our bridal tour over that line, and when we reached home my best chum got the all-firedest best thrashing he ever had."—Detroit Free Press.

Minister—I am sorry I didn't see you at church yesterday, Tammus.

Tammus—Weel, ye see, it wis siccan a wat day it wassa fit to turn out a dog in. But I sent the wife, sir.

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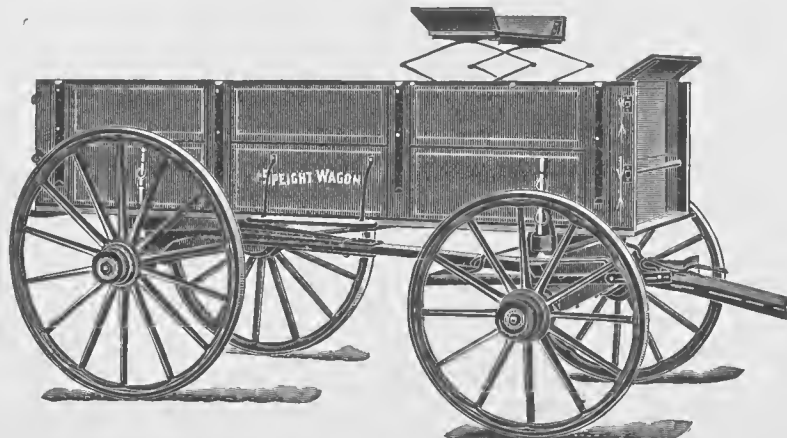
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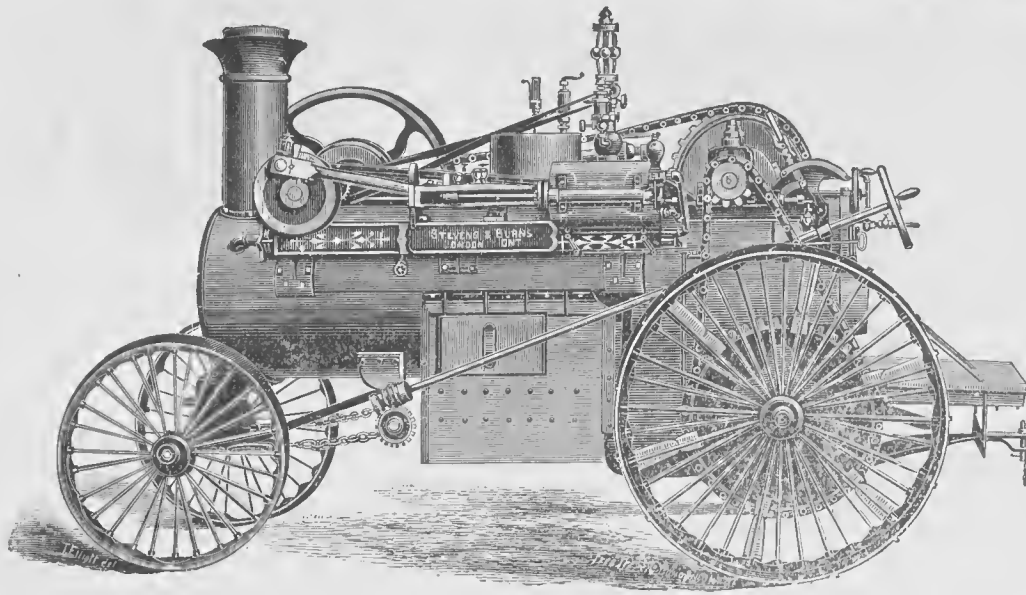
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My Mother.

Some one I love comes back to me
With every gentle face I see—
Beneath each wave of soft grey hair
I see my own dear mother there ;
With every kindly glance and word
It seems as if I must have heard
Her speak, and felt her tender gaze
With all the love of olden days.
Then I am moved to take her hand,
And tell her now I understand.
How tired she grew beneath the strain
Of feeling every loved one's pain ;
No further burdens could she bear,
The promise of that land so fair
Alone could tempt her from her child ;
And now if I could keep her here,
No sacrifice would be too dear,
No tempered winds for her too mild ;
Then I would smooth and kiss her face
And by her side take my old place
And sob my years and cares away.
I think if I could feel her touch
Once more, it would not matter much
How sunny or how dark the day ;
The tears I have so long repressed
Would lose their ache upon her breast.
I love each mother that I see.
That brings my own so near to me ;
For though I never more may frame
Upon my lips that hallowed name
To any one who will draw me near
And answer me with warm caress—
As long as there are mothers here,
No child shall be quite motherless.

—Mary Augusta Mason.

The Dog and His Chum.

Friendships between dumb animals are shown and strengthened by little deeds of thoughtful kindness.

A very ordinary-looking farm horse harnessed to an old wagon stood by the curb, and on the board that served for a seat lay a small dog of such mixed blood that no guess can be made as to its breed.

As a delivery wagon passed on the opposite side of the street a large red apple fell off. Before it stopped rolling the dog bounded across the street, picked it up with his teeth, and with tail wagging rushed back to the horse, in front of which he stood on his hind legs while the apple was taken from his mouth.

As the horse munched the apple he made the peculiar noise that horses make when petted, and doggie replied with throaty little barks which plainly told what a pleasure it had been to go after that apple. Then he went back to his nap on the wagon-seat.

Knack.

Some persons never have the ability to make things run smoothly. Everything they take hold of seems to get gnarled and twisted; their work seems to become disjointed and unhinged and to always turn out wrong somehow; they are apt to be misunderstood by their neighbors and the sentence intended as a compliment is taken as an insult.

We find these mortals everywhere. Some of them live on farms. This kind of farmer always sells his wheat and cattle when the markets are lowest and buys flour for his family and oats for his horses when the prices are highest. His cattle

break into his crop just when it comes into head and his binder goes wrong just when the biggest field is ready to cut. His wife hangs out her washing just before a dust storm, goes to town in a light dress on a wet day, or forgets her "garden truck" when the first September frost falls. If we had not outlived the myths of astrology, we would be sure that they had been born at some ill-omened hour or under some unlucky planet.

We say of these persons that they have no "knack." Now what does this word "knack" mean? If we look up the dictionary on this point we will find that "knack" means readiness or dexterity. And of course the grim dictionary is an authority which cannot be gainsaid! And if we look closely into the matter we may find that this definition gives us the key to the trouble in a large number of these cases. Through lack of judgment, or lack of dexterity, these people always juggle their work wrongly and are never just ready at the right moment. We would advise the young folks just to look this up and see if we are not right. Knack, readiness, dexterity—call it what you will—is a mighty handy faculty to have.

In the grab-bag game of Fortune,

'Mid the gifts the Fates allot,

There's a fair one and a rare one

That's a winner on the spot ;

'Tisn't beauty, no, nor booty,

But its "high-hand" in the pack,

'Tis that master touch of "get there"

Which we mortals call the "knack."

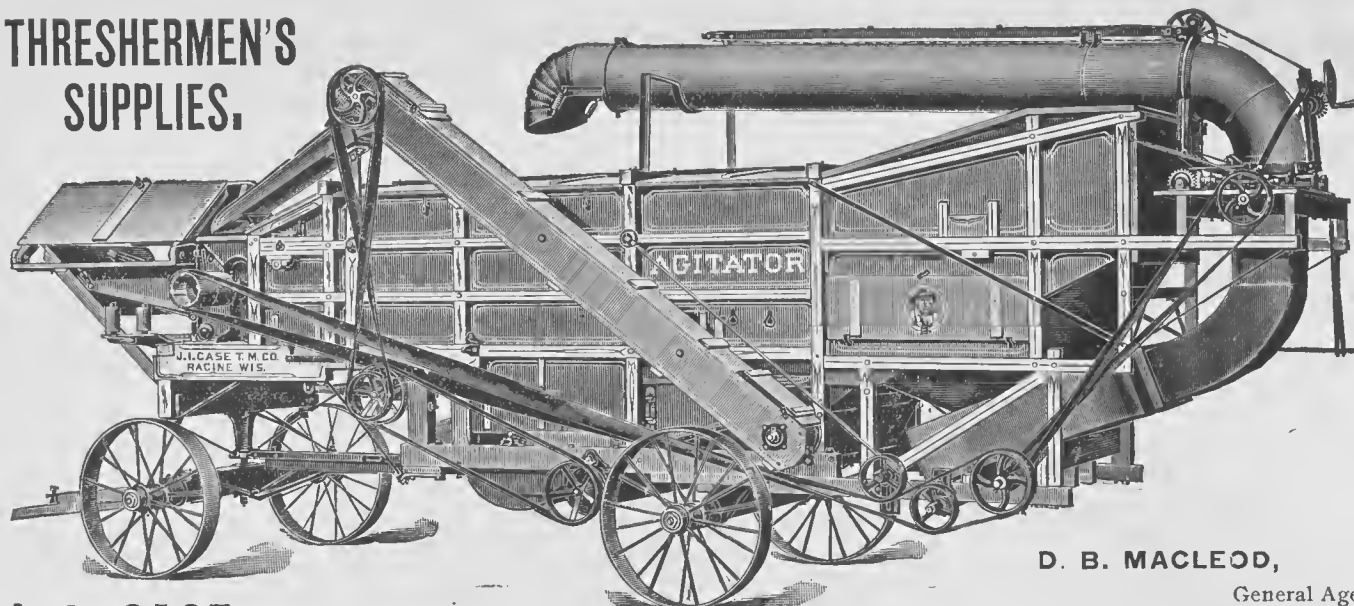
Mrs. Houlihan—"I want to get a pair of shoes for the little bye."

Shopman—"French kid, ma'am?"

Mrs. Houlihan (indignantly)—"Indade not; he's me ownson, born and bred in Ameriky."

"Do you think a little temper is a bad thing in a woman?" asked a young lady of her lover. "Certainly not," he replied; "on the contrary, it is a very good thing, and she should be careful never to lose it."

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A Scriptural Definition.

Lyman Abbott has started a multitude of people laughing by telling this Sunday school experience: The superintendent of Plymouth school gave a series of questions to a class. They were allowed a week to look up the answers, which were to be given in Scripture language. The day for examination came and the small boys were arranged in a row before the school. One question after another was answered very accurately, when the superintendent turned to a small boy near the end of the row and said:

"Now, Johnny, what is a lie? Tell us in the language of Holy Writ."

Johnny looked uneasy for a moment, then gained great confidence and blurted out:

"A lie—a lie is—a lie is an abomination unto the Lord, and—and—a very present help in trouble."

The Use of Alcohol.

It is well known that drinking is increasing at a more rapid rate in France than in any other civilized country and its baneful effects are becoming every year more apparent. Light native wines are falling into disuse and more stimulating drinks are taking their place. Scientific men are turning their attention to the situation and in a French medical review Dr. Bienfait thus deals point by point with the various objections to total abstinence: (1) Is alcohol a digestive? No; its ingestion produces a passing excitation, interrupts the proper action of the muscles of the stomach, because alcohol acts as an anæsthetic after having irritated the walls of the stomach, and it drives the blood to the skin and so hinders the action of the gastric juice. (2) Is alcohol an appetizer? No; it produces an excitation of the stomach which causes a sensation taken for hunger. (3) Is alcohol a food? No; it does not correspond to the definition of a food, and the heat that it seems to produce does not serve as an actual warmth. (4) Is alcohol heating? No; it causes a flow of blood to the skin and a lowering of temperature. (5) Is alcohol a stimulant? In no case, either physical or intellectual. (6) Is alcohol a protector against contagion? No; it predisposes the body to contagion. (7) Can we live without alcohol? This idea

that we cannot live without alcohol is a prejudice that numerous facts contradict. (8) Is alcohol good for children? It should never be given to children. (9) Does alcohol increase longevity? According to reliable statistics alcohol diminishes longevity. In short, the use of alcohol is based on ignorance and appetite, not on scientific truth.

Kerosene for Dishwashing.

One sometimes gets into bad repute who tries to give information on too many subjects and who may sometimes appear to deal with what he had better let alone. I doubt not that many good ideas are lost from not stating things that one really knows. Therefore I never hesitate to give what I think may be useful information for fear of making a fool of myself.

You have dealt with the subject of washing dishes, usually supposed to require hot water and soap. In the course of my studies about nutrition I learned something on this simple household matter. If women can overcome their reluctance to the use of common kerosene oil on account of its bad smell, they may put a dash of one or two spoonfuls of kerosene oil into a pan of cold or tepid water; then put greasy dishes, knives and forks, or glass into the pan, turn them round and round a little without attempting to scrub; it will then appear that the mineral or kerosene oil forms what is called an emulsion with the grease, the smell disappears, and after resting a little the dishes and the silverware may be taken out and wiped bright and clean. Knife handles will be preserved from injury by not being subjected to hot water and soap. Mineral oil is an anti-septic. Microbes will be killed and when the water containing the emulsion is poured down the sink, especially if a little more kerosene oil be added, the pipes will be kept clear of grease. Nothing but prejudice stands in the way of this simple, effective and wholesome method of washing dishes. It is well known that in all modern laundry processes a little kerosene oil is used for the same purpose.—Edward Atkinson in Country Gentleman.

In selecting breeding stock, breeders should be very careful to pay particular attention to the feeding and fattening qualities of the animals they choose.

A bachelor farmer a little past his prime, finding himself hard up, thought the best thing he could do would be to marry a neighbor of his who was reputed to have some bawbees.

Meeting with no obstacles to his wooing he soon got married.

One of his first purchases he made with part of her money was a horse. When he brought it home he called out his wife to see it.

After admiring it she said: "Well, Sam, if it hadna been for my siller it woodna hae been here."

"Jenny," Sam replied, "if it hadna been for yer siller, ye wadna hae been here yersell!"

Before she got her bicycle she sometimes used to make

The beds and wash the dishes, and help her mother bake;

She would even sweep the parlor and dust the bric-a-brac,

And once she did the washing, though it almost broke her back.

But now she has her bicycle, she doesn't do a thing

About the house, but day and night she's ever on the wing,

Her health was never better, brown and rosy is her skin;

But her mother, if you'll notice, is looking worn and thin.

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